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Construction Engineering  
Research Laboratories

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January 1995**

# **Central Heating Plant Economic Evaluation Program, Volume 4: Coalfield Properties Information Data Management Program**

by

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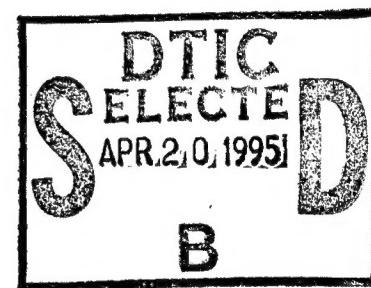
Public Law has directed the Department of Defense (DOD) to rehabilitate and convert its existing domestic power plants to burn more coal. Other Federal legislation requires DOD to use the most economic fuel for any new heating system.

This five-volume report discusses the Central Heating Plant Economic Evaluation Program (CHPECON), a computer program for screening potential new and retrofit steam/power generation facilities.

Volume 1 is the Technical Reference.  
Volume 2 is the User's Manual.  
Volume 3 is the Military Base Weather Information Data Management Program.  
Volume 4 is the Coalfield Properties Information Data Management Program.  
Volume 5 is the Emission Regulations Data Management Program.

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The program provides sufficient flexibility to vary critical design and operating parameters to determine project sensitivity and parametric evaluation.



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## Foreword

This study was conducted for the Assistant Chief of Staff for Installation Management (ACS(IM)), Directorate of Facilities and Housing under the Coal Conversion Studies Program, which is administered by the Energy Policy Directorate of the Office of the Assistant Secretary of Defense, Production & Logistics, Energy Policy (OASD P&L/EP). Millard Carr is the Program Manager. Funding was provided under Military Interdepartmental Purchase Request (MIPR) No. W56HZV89-AC-01; Work Units "Coal Conversion Strategies for DOD" and "Enhancement of Existing Models," dated 20 November 1989. The technical monitor was Qaiser Toor, DAIM-FDF-U.

The work was performed by the Fuels and Power Systems Team (FEP), Energy and Utility Systems Division (FE) of the Infrastructure Laboratory (FL), U.S. Army Construction Engineering Research Laboratories (USACERL). Special acknowledgement is given to Lee Thurber, Rama Katz, and Mei-Yi Feng, CECER-FE for their efforts in organizing technical materials. Dr. David M. Joncich is Chief, CECER-FE, and Alan Moore is Acting Chief, CECER-FL. The USACERL technical editor was Gloria J. Wienke, Information Management Office.

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# 1 Introduction

## Background

The fiscal year (FY) 1986 Defense Appropriation Act (Public Law [PL]-99-190) Section 8110 directed the Department of Defense (DOD) to implement the rehabilitation and conversion of central heating plants to coal firing. The target set by this act was 1.6 million short tons<sup>\*</sup> of coal per year above the 1985 consumption level by 1994. The language further stated that 300,000 tons of this amount should be anthracite coal. The purpose of this Section was to offset decreasing anthracite coal use in Germany resulting from U.S. Army, Europe (USAREUR) installations connecting to district heating systems. The FY 1987 Defense Authorization Act (PL-99-661, Section 1205) also directed that the primary fuel source in any new heating system be the most life cycle cost effective. To assist in complying with these acts, the U.S. Army Center for Public Works (USACPW) requested that the U.S. Army Construction Engineering Research Laboratories (USACERL) provide technical studies and support for the Army's Coal Conversion Program.

## Objective

The objective of this project is to develop a series of screening and life cycle cost estimating computer models to determine when and where specific coal combustion technologies can be economically implemented at Army central heating plants.

## Approach

The approach for providing Coal Conversion Program support has been to develop tools useful for long range utility planning and for evaluating both the technical and economic feasibility of conversion. Cost estimating methods have been developed for building new coal, gas, or oil plants, and for retrofitting existing plants to coal firing capability. Supporting data bases have been developed covering installation-specific data (heating plant inventory, building inventory, weather data, energy usage),

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\* A metric conversion table is on page 20.

environmental regulations, coal supply information, and combustion equipment performance. The plant sizes examined in the model range from 50,000 to 600,000 pounds per hour (lb/hr) with individual boiler sizes from 20,000 to 200,000 lb/hr of steam or high temperature hot water (HTHW). The program is divided into two parts: the preliminary screening model and the detailed cost model. The screening model is used to initially evaluate each plant site and boiler technology option to produce a list of the promising locations and technology options. The screening model contains five distinct sections for evaluating new heating plants, retrofit heating plants, cogeneration facilities (in base-managed and third-party-managed forms), and consolidation of existing multiple boiler plants.

The new heating plant screening model is used to determine if a new coal fired heating plant can be built to replace an existing steam plant (150 pounds per square inch gauge [psig] saturated steam or equivalent hot water or 250 psig saturated steam). The boiler technology options include: stoker, bubbling fluidized bed, circulating fluidized bed, coal/water slurry, coal/oil slurry, natural gas, and #2 and #6 fuel oils.

The retrofit screening model is used to determine if the existing boilers can be retrofitted to fire coal or low-British thermal unit (Btu) gas supplied from a gasifier. The boiler options include: coal-water slurry, coal-oil slurry, micronized coal, slagging coal, bubbling fluidized bed, and stoker, as well as gasification.

The cogeneration screening model is used to determine if a new cogeneration steam plant is a feasible alternative for a military base heating plant. Medium pressure (600 psig, 750 °F) or high pressure (1300 psig, 1000 °F) plants can be analyzed. The boiler types considered are stoker, coal-oil slurry, coal-water slurry, bubbling fluidized bed, and circulating fluidized bed.

The consolidation screening model is used to determine if the military base should consolidate several individual heating plants into one main heating plant. This section assesses whether the steam distribution density is sufficient to consider consolidation as a practical option.

After the screening model has been executed, the user has the option to quit or to restart another screening model (for another option) or to continue to obtain a cost estimate for the selected facility. The costing model contains sections for a new heating plant, retrofit heating plant, cogeneration facility (base and third party), and consolidated facility.

The costing model provides conceptual facility design, capital installed costs of the conceptual facility, operational and maintenance costs over the life of the conceptual facility, and life cycle costs.

## Report Organization

This report discusses the Central Heating Plant Economic Evaluation Program (CHPECON) and is divided into the following five volumes:

Central Heating Plant Economic Evaluation Program, Volume 1: Technical Reference.

Central Heating Plant Economic Evaluation Program, Volume 2: User's Manual

Central Heating Plant Economic Evaluation Program, Volume 3: Military Base Weather Information Data Management Program

**Central Heating Plant Economic Evaluation Program, Volume 4: Coalfield Properties Information Data Management Program.**

Central Heating Plant Economic Evaluation Program, Volume 5: Emission Regulation Data Management Program

## System Requirements

CHPECON was developed using an 80286 personal computer with 640K memory, and was run using MS-DOS 3.3. The models should operate satisfactorily on 8088/80286/80386 processors with MS-DOS 2.0 and above. The program is written in dBase III Plus compatible language with some extensions. To provide the necessary speed and compactness, the program is distributed in compiled form using Nantucket's Clipper and allows stand-alone operation without requiring additional utilities.\*

## Scope

The purpose of this work is to investigate the feasibility of conversion of Army central heating plants to coal firing. The models developed are generally applicable to industrial or large commercial facilities. The economic evaluation program for screening and life cycle costs will serve as a tool to select and rank potential Army sites for coal conversion.

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\* dBASE III Plus is a registered trademark of Ashton-Tate, and Clipper is a registered trademark of Nantucket Software.

## **Mode of Technology Transfer**

The CHPECON program may be obtained by contacting the USACERL Fuels and Power Systems Team at 1-800-872-2375, extension 5551. The program will be transferred to Major Army Command Headquarters for further distribution. It is recommended that availability of this program and the information presented in this report be disseminated in a Public Works Technical Bulletin.

## 2 The COALFIELD Program

### Introduction

This data base program for coal field properties was developed to support an overall program for studying coal usage at continental U.S. Army bases. The program, COALFIELD, is written in dBASE III Plus and can be used as a stand-alone program or can be merged with the overall Central Heating Plant Economic Evaluation (CHPECON) program. The stand-alone capability of COALFIELD eliminates the need to reinstall all the CHPECON program files when updating the coal field properties files. In support of CHPECON, COALFIELD maintains the file from which the coal program draws its information about coal fields. In use, this file is scanned for suitability with the user-selected technology (e.g., type of coal, range of hemispherical temperatures), and for locations within a specified distance from a base.

The United States Geological Survey (USGS) was the source of the coal properties data. The original sample size consisted of over 6000 entries. Noncoal entries were deleted from this set, as were entries that were incomplete. An additional pass through the data was required to eliminate those entries that were outside the range of consideration for this research. Duplicate entries (defined as the same latitude and longitude) were then eliminated. The resulting database has over 2400 entries from among 31 states.

### Information Review

Figure 1 shows the standard display for the coal fields properties program. All the information used by the CHPECON program pertinent to a coal field is contained on one screen divided into logical sections. The area within the box is the coal field information. The area below the box is for the menu prompts and display of program messages. The information is accessed and updated through this menu. To select an option, press the capitalized letter in the option description.

**Edit field <E>** permits editing of the displayed coal field.

Coal field location State: TN - Tennessee County: MARION	Last changed: 09/01/88 Location: PETROLEUMS ENERGY SERV INC Lat: 35°17'42" Long: 85°32'15"
<b>Proximate Analysis</b> Moisture: 3.50 % (as delivered) ( dry basis ) Fixed Carbon: 64.70 % Volatile: 26.30 % Ash: 9.00 %	
<b>Ultimate Analysis -- (dry basis)</b> Carbon: 78.10 % Hydrogen: 4.70 % Nitrogen: 1.60 % Sulfur: 0.60 % Oxygen: 6.00 %	
<b>Miscellaneous</b> Gross Calorific Value (dry): 13750 Btu/lb Rank: B Hemispherical Temperature: 2804 °F (H=½W, reducing) Hardgrove Grindability Index: 0.0 Free Swelling Index: 4.5 Code Number: W193643 Note:	
Edit field / Add field / move Forward / move Backward Delete field / change Views / Print field list / Quit Option (E/A/F/B/D/V/P/Q)    « »	

Figure 1. Screen display for detailed view of coal field information.

**Add field <A>** adds a blank field entry, then goes to the editing subroutine to allow entering the correct values for a new coal field.

**Move Forward <F>** displays the next coal field (as if flipping through a card file) until the end is reached.

**Move Backward <B>** displays the previous coal field (moving toward the beginning of the file) until the first entry is reached. The entries in the file are arranged by state.

**Delete field <D>** causes the field currently displayed to be eliminated from the file. The information that was entered is lost. As a check, you are asked to confirm the decision to delete a coal field.

**Change Views <V>** switches to a display that shows less information about an individual field but allows many fields to be displayed at one time. This is discussed in detail below.

**Print a field list <P>** allows you to print entries from the coalfield data base. Selecting this option brings up another prompt, asking if you want to print the displayed entry, the entries for a single state, all entries, or quit and return to the main screen without printing. If you request printing of the displayed field or all fields, the program begins printing. If you request to print by state, the program asks for the name or abbreviation of the state. After answering the

prompt for the state, the program begins printing. An example of the printed information is shown in Figure 2.

**Quit <Q>** returns you to the previous menu, if the program was run as part of the overall program set, or returns to the operating system, if the program was run as a separate module.

Changing the view from the detailed display of the coal field information brings up a display showing many coal field entries per screen, but less information about each coal field. An example of the display is presented in Figure 3. The menu options are the same as for the detailed display; however, they work somewhat differently.

“Editing a field <E>” requires you to first indicate which entry should be edited out of the list displayed, then proceeds as before. Use the up- and down-arrow keys on the

Coal field information printout for: MI - Michigan		- 09/19/88
Location:	Last changed: 09/01/88	
County: INGHAM	Lat: 42d 40m 53s	Long: 84d 16m 14s
Proximate Analysis	Moisture: 13.30 % (as delivered)	
Fixed Carbon: 56.10 %	Volatile: 41.90 %	Ash: 2.00 % --- (dry basis)
Ultimate Analysis -- (dry basis)		
Carbon: 80.10 %	Hydrogen: 5.30 %	Nitrogen: 1.70 %
Sulfur: 1.20 %	Oxygen: 9.70 %	
Miscellaneous		
Gross Calorific Value (dry): 14310 Btu/lb	Rank: B	
Hemispherical Temperature: 0 F	(H=1/2W, reducing)	
Hardgrove Grindability Index: 0.0	Free Swelling Index: 0.0	
Code Number: D172593		
Note:		
Location:	Last changed: 09/01/88	
County: INGHAM	Lat: 42d 40m 56s	Long: 84d 16m 14s
Proximate Analysis	Moisture: 10.30 % (as delivered)	
Fixed Carbon: 56.90 %	Volatile: 40.20 %	Ash: 2.90 % --- (dry basis)
Ultimate Analysis -- (dry basis)		
Carbon: 78.00 %	Hydrogen: 5.20 %	Nitrogen: 1.60 %
Sulfur: 1.30 %	Oxygen: 11.00 %	
Miscellaneous		
Gross Calorific Value (dry): 14080 Btu/lb	Rank: B	
Hemispherical Temperature: 0 F	(H=1/2W, reducing)	
Hardgrove Grindability Index: 0.0	Free Swelling Index: 0.0	
Code Number: D172594		
Note:		
Location:	Last changed: 09/01/88	
County: INGHAM	Lat: 42d 44m 56s	Long: 84d 45m 46s
Proximate Analysis	Moisture: 18.60 % (as delivered)	
Fixed Carbon: 52.00 %	Volatile: 40.90 %	Ash: 7.10 % --- (dry basis)
Ultimate Analysis -- (dry basis)		
Carbon: 73.40 %	Hydrogen: 5.00 %	Nitrogen: 1.40 %
Sulfur: 1.70 %	Oxygen: 11.40 %	
Miscellaneous		
Gross Calorific Value (dry): 13100 Btu/lb	Rank: B	
Hemispherical Temperature: 0 F	(H=1/2W, reducing)	
Hardgrove Grindability Index: 0.0	Free Swelling Index: 0.0	
Code Number: D172595		
Note:		

Figure 2. Example of coal field information printout.

Coal Field Information Management Program Condensed View of Coal Fields			09/20/88
State	Rank	County	Location
PA	B	ELK	STRIP MINE
PA	B	ELK	STRIP MINE
TN	B	MARION	ALLEN COAL CO
TN	B	GRUNDY	FOUR SEASONS COAL CO
TN	B	MARION	PETROLEUMS ENERGY SERV INC
TN	B	BLEDSOE	PIONEER COAL CO
TN	B	SEQUATCHIE	SOUTHERN ENERGY RES CO
TN	B	BLEDSOE	LUCKY CUMBERLAND COAL CO
TN	B	BLEDSOE	LAMB CREEK COAL CO
TN	B	BLEDSOE	SAUNDERS COAL CO
TN	L	LAUDERDALE	STATE PRISON FARM
TN	B	ANDERSON	JACKSON MINING CO
TN	B	MORGAN	G&B COAL CO

Edit field / Add field / move Forward / move Backward  
 Delete field / change Views / Print field list / Quit  
 Option (E/A/F/B/D/V/P/Q)      « »

Figure 3. Screen display for condensed view of coal field information.

cursor keypad, then press “E” when the pointer is at the desired field. You can also quit from the editing pointer display back to the main menu. “Adding <A>” is the same in that a blank entry is created, then the program switches to editing the blank entry to place the information in the file.

Moving “Forward <F>” and “Backward <B>” moves up or down one screen at a time; since many coal fields are displayed, this allows quicker movement through the file.

“Deleting a field <D>” requires you to first indicate which entry should be deleted. Deleting in this view also requires a confirmation, as did deleting in the detailed view. “Changing Views <V>” in this view moves you back to the detailed view.

“Print a field list <P>” is the same as before, as is Quit <Q>”.

### 3 Information Editing

The information displayed in the detailed view (Figure 1) is divided into logical sections within the box. The first section is the coal field's location. The location field should contain the actual name of the mine (preferred) or a description of the type of site. The last changed date is displayed, but is not directly changed. When a field's data is edited, or when it is first added, the last changed date is automatically updated to the current date in the computer system's clock. The latitude displayed is the north (assumed) latitude of the coal field in the format DDD°MM'SS", where DDD is in degrees, MM is in minutes, SS is in seconds. The longitude displayed is the west (assumed) longitude of the coal field in the same DDD°MM'SS" format.

The next boxed-in area of the detailed view contains the coal's proximate analysis. The moisture fraction of the coal is for the coal as delivered, in percent, from the proximate analysis laboratory results. The next three values are for the coal on a dry basis, as noted on the screen. The values, in percent, are for the fractions of fixed carbon, volatiles, and ash in the coal. The total of these three values must equal 100 percent. If the sum of the values does not equal 100 percent, a message is displayed on the right side of the screen. If you ignored this, the program displays a message that it cannot proceed when the data screen is completed, instead of the prompt for whether the information entered should be accepted.

The next boxed-in area is for the ultimate analysis of the coal, on a dry basis. The values, in percent, are for the fractions of carbon, hydrogen, nitrogen, sulfur, and oxygen in the coal. These five values and the ash value should total 100 percent. In the same manner as the proximate analysis, if the values do not equal 100 percent, a message is displayed on the right side of the screen. If this message is ignored, the program stops at the end of the entries with the longer message that the ultimate analysis values do not total 100 percent. It is possible that both the proximate and ultimate totals will not equal 100 percent due to an erroneous ash value entry.

The values in the miscellaneous box describe the coal in more general terms. The gross calorific value (heating value on a dry basis) is in Btu/lb of coal. The expected range is from 5,000 to 20,000 Btu/lb. The rank is the general type of coal. Acceptable values to the program are: B (bituminous), SB (sub-bituminous), L (lignite), A (anthracite), and SA (semi-anthracite). The program continues to prompt until one of

these values is entered. The hemispherical temperature is the value defined by height = (0.5) × (width) in a reducing environment, in degrees Fahrenheit. Acceptable values are from 1000 to 3500 °F. The Hardgrove Grindability Index has an acceptable value range of from 20 to 120. The Free Swelling Index has an acceptable value range of from 0 to 9. The code number is a unique number given to the entry for later identification; it is alphanumeric, with a check made on the uniqueness of the entry. In the case of the original data, the code number is the USGS number assigned to the entry. The note contains any additional information that should be recorded about the coal field. For example, the note could indicate that this coal field is the one used by a certain base, or that the reserves of the coal field are limited. Anything that may be useful in deciding to use a coal field should be placed in the note space.

For some of the information about a coal field, a value of 0 can be entered instead of a value in the expected range. This has been provided for the times when some of the values are not yet known. However, the proximate analysis, the gross calorific values, and the latitude and longitude must be entered. Table 1 summarizes the error checking in the program.

**Table 1. Summary of error checking on entered data.**

Information	Acceptable Values
State	Must be one of the 50 states.
Location	No error checking implemented. Can be a blank entry.
County	No error checking implemented. Can be a blank entry.
Latitude	The latitude must be in the format DDD°MM'SS", where DDD is in degrees, MM is in minutes, SS is in seconds. DDD must be in the range from 25 to 72. MM and SS must be a value of 00 to 59, inclusive.
Longitude	The longitude must be in the format DDD°MM'SS", where DDD is in degrees, MM is in minutes, SS is in seconds. DDD must be in the range from 63 to 172°. MM and SS must be a value of 00 to 59, inclusive.
Moisture	Moisture fraction of the coal should be in the range of 0 to 60 percent, inclusive.
Fixed Carbon	Fraction of fixed carbon in the coal must be in the range of 20 to 99 percent, inclusive. Total of fixed carbon, volatiles, and ash must equal 100 percent.
Volatiles	Fraction of volatiles in the coal must be in the range of 0 to 60 percent, inclusive. Total of fixed carbon, volatiles, and ash must equal 100 percent.
Ash	Fraction of ash in the coal must be in the range of 0 to 50 percent, inclusive. Total of fixed carbon, volatiles, and ash must equal 100 percent.
Carbon	Fraction of carbon can have a value from 20 to 99 percent, inclusive. Total of carbon, hydrogen, sulfur, oxygen, nitrogen (ultimate analysis), and ash from proximate analysis must equal 100 percent.

Information	Acceptable Values
Hydrogen	Fraction of hydrogen can have a value from 0 to 30 percent, inclusive. Total of carbon, hydrogen, sulfur, oxygen, nitrogen (ultimate analysis), and ash from proximate analysis must equal 100 percent.
Sulfur	Fraction of sulfur can have a value from 0 to 20 percent, inclusive. Total of carbon, hydrogen, sulfur, oxygen, nitrogen (ultimate analysis), and ash from proximate analysis must equal 100 percent.
Oxygen	Fraction of oxygen can have a value from 0 to 50 percent, inclusive. Total of carbon, hydrogen, sulfur, oxygen, nitrogen (ultimate analysis), and ash from proximate analysis must equal 100 percent.
Nitrogen	Fraction of nitrogen can have a value from 0 to 30 percent, inclusive. Total of carbon, hydrogen, sulfur, oxygen, nitrogen (ultimate analysis), and ash from proximate analysis must equal 100 percent.
Gross Calorific Value	Heating value must be in the range of 5,000 to 20,000 Btu/lb, inclusive.
Rank	The rank, or type, of the coal must be one of the following five values: B = bituminous SB = sub-bituminous L = lignite A = anthracite SA = semi-anthracite
Hemispher. Temperature	Hemispherical temperature of the coal (defined as height = 0.5 x width) is in the range of 1000 to 3500 °F, inclusive, or 0 if no value is known.
Hardgrove Grindability Index	The index must be in the range of 20 to 120, inclusive, or 0 if no value is known.
Free Swelling Index	The index must be in the range of 0 to 9, inclusive, with 0 either a real value or representative of no value known.
Code Number	The code number must be a unique entry in the data base. It cannot be a blank entry.
Note	No error checking implemented. Can be a blank entry.

## 4 Program and Data Listing

The listing of the program segments is contained in Appendix A of this report. A listing of the information stored in the coal field data base from the USGS data is contained in Appendix B of this report. The file structure of COALFIEL.DBF is shown in Table 2. The individual data base fields are updated through the coal field information screen, as described earlier.

Two data base fields used by CHPECON have been added that specifically require storing information about coal fields. SLCTD (selected) is a logical field that is set TRUE or FALSE based on whether the coal field has been selected by CHPECON based on the distance it is from the military base that is being studied. DIST FROM is the distance in miles that the coal field is from the military base. This value is displayed as part of the acceptable coal fields display when you are given the opportunity to review before selecting one coal field for use of its properties in the emissions and technology analysis of CHPECON.

**Table 2. Structure for data base file COALFIEL.DBF.**

Field	Field Name*	Field Type	Field Width	Decimal Width
1	State	Character	2	
2	County	Character	23	
3	Location	Character	30	
4	Last Chg	Date	8	
5	Latitude	Numeric	7	
6	Longitude	Numeric	7	
7	Moisture	Numeric	6	2
8	Volatile	Numeric	6	2
9	Fixed Crbn	Numeric	6	2
10	Ash	Numeric	6	2
11	Rank	Character	5	
12	HHv Dry	Numeric	6	
13	Hrdgrv Grd	Numeric	5	1
14	Free Swell	Numeric	4	1

15	Aft S	Numeric	5	
16	Carbon	Numeric	5	2
17	Hydrogen	Numeric	5	2
18	Sulfur	Numeric	5	2
19	Oxygen	Numeric	5	2
20	Nitrogen	Numeric	5	2
21	Code No	Character	20	
22	Cmmnt	Character	65	
23	Slctd	Logical	1	
24	Dist From	Numeric	5	
*Field	Description			
Location	Either the name of the mine or a description of the type of mine.			
County	County in which the coal field is located.			
Code Number	A unique number given to the entry for later identification. (In the case of the original date, this is the USGS number assigned to the entry.)			
Latitude	The north latitude of the coal field in the format DDDMMSS, where DDD is in degrees, MM is in minutes, SS is in seconds.			
Longitude	The west longitude of the coal field in the format DDDMMSS, where DDD is in degrees, MM is in minutes, SS is in seconds.			
Rank	<p>The rank, or type, of the coal:</p> <ul style="list-style-type: none"> <li>B = bituminous</li> <li>SB = sub-bituminous</li> <li>L = lignite</li> <li>A = anthracite</li> <li>SA = semi-anthracite</li> </ul>			
Htg Val	Heating value of the dry coal in Btu/lb.			
Last Chg	Date the entry was last changed.			
Moisture	Moisture fraction of the coal as delivered, in percent, from the proximate analysis.			
Volatiles	Fraction of volatiles in the coal on a dry basis, in percent, from the proximate analysis.			
Fixed Carbon	Fraction of fixed carbon in the coal on a dry basis, in percent, from the proximate analysis.			
Ash	Fraction of ash in the coal on a dry basis, in percent, from the proximate analysis.			
Carbon	Fraction of carbon in the coal on a dry basis, in percent, from the ultimate analysis.			
Hydrogen	Fraction of hydrogen in the coal on a dry basis, in percent, from the ultimate analysis.			

*Field	Description
Sulfur	Fraction of sulfur in the coal on a dry basis, in percent, from the ultimate analysis.
Oxygen	Fraction of oxygen in the coal on a dry basis, in percent, from the ultimate analysis.
Nitrogen	Fraction of nitrogen in the coal on a dry basis, in percent, from the ultimate analysis.
Hardgrove	Hardgrove grindability index of the coal.
Free Swell	Free swelling index of the coal.
Hemi Temp	Hemispherical temperature of the coal, in °F; defined as the softening temperature at which $H=1/2W$

## 5 Program and Data Installation

The stand-alone nature of COALFIELD requires that it be installed as an independent entity before use, even if it will be used only as part of CHPECON. One disk contains the programs and empty data files for COALFIELD. The installation consists of copying the disks to a suitable subdirectory on a hard disk of the computer that will be used. When the COALFIELD program is run, it will automatically create the index files it needs. However, at this point the index files will be blank.

The COALFIELD data base itself is larger than a standard 360k floppy disk when it contains the information generated in this project. Because of this, an additional program has been provided that manages the process of handling small files that will fit on 360k floppies, called COALBLD. COALBLD is a standalone program with a menu of three options:

**Adding** to COALFIEL.DBF will cause COALBLD to look for data files named COALFL##.DBF, where ## can vary from 1 to 99. COALFIEL.DBF can be optionally cleared (previous information removed) before adding, and index files are rebuilt if any additions are made. COALBLD will use the data structure of the first data file that is found to create COALBLD.DBF if COALFIEL.DBF is not initially present. COALBLD will look only in the current drive/directory for COALFIEL.DBF and COALFL##.DBF.

**Splitting** COALFIEL.DBF will produce the small data files that are looked for by COALBLD during the adding process. COALBLD will inform you if it cannot find COALFIEL.DBF. It will erase any previous small data files, leaving only the current ones on the directory.

**Quitting** will end COALBLD.

To use COALBLD to place all available data into the COALFIEL.DBF data base file, first copy all available disks to the directory where COALFIELD is installed. Then start COALBLD and select the adding option. To split the COALFIEL.DBF apart, start COALBLD and select the splitting option. The individual files can then be copied to floppies or other media for transfer to another system.

## 6 Running COALFIELD

To run COALFIELD as a stand-alone program, you must know the program's environment.

1. If run under dBASE III or a compatible interpreter (like FoxBase<sup>\*</sup>), start dBASE, then enter the command **DO COALFIEL**, and press the <RETURN> key.
2. If run as a compiled program (like Clipper<sup>\*\*</sup>), from the DOS prompt (or similar), enter the command **COALFIEL**, and press the <RETURN> key.

Exiting the program will return you to the level that called it—the dot prompt if in dBASE or FoxBase, and the DOS prompt if in Clipper.

**Metric Conversion Table**

1 in.	=	25.4 mm
1 sq in	=	6.452 cm <sup>2</sup>
1 psi	=	6.89 kPa
1 psi	=	89.300 g/cm <sup>2</sup>
1 lb	=	0.453 kg
1 lb/hr	=	0.126 g/s
1 cu ft	=	0.028 m <sup>3</sup>
1 sq ft	=	0.093 m <sup>2</sup>
°F	=	(°C + 17.78) × 1.8
1 Btu/lb	=	0.556 cal/g
1 ton	=	907.185 kg

---

\* FoxBase is a registered trademark of Fox Software, Inc.  
\*\* Clipper is a registered trademark of Nantucket Software.

## **Appendix A: Program Listing**

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

Pg 1  
of 6  
1-50

```
*****  
*- CHKSTAT2.PRG -- Last Update 01/11/89  
*- Copyright (c) 1988,1989 by John A. Kinast  
*- All Rights Reserved  
*- written for CERL  
*****  
*- attempt to decipher state entry, detailed analysis  
*****  
*  
* convert state entry to upper case, set up length and flag  
st=UPPER(LTRIM(TRIM(st)))  
stln=LEN(st)  
stlst=""  
stn=""  
ok=.f.  
  
* if entry is two characters,  
* check to see if it is proper state abbreviation  
+--IF stln=2  
| DO idstate  
+--ENDIF  
  
* if state found, stlst has name, routine can return from here  
+--IF LEN(stlst)>0  
| ` stn=st  
| ok=.t.  
| RETURN  
+--ENDIF  
  
* if length is 0 (no entry), set name to special code  
+--IF stln=0  
| stlst="--,--"  
| ok=.t.  
+--ENDIF  
  
* if nothing has been found, try matching  
* first letters of entry with state names  
+--DO WHILE .NOT. ok  
|  
| +--IF 'ALABAMA'=st  
| | stlst=stlst+', Alabama'  
| | stn='AL'  
| +--ENDIF  
| +--IF 'ALASKA'=st  
| | stlst=stlst+', Alaska'  
| | stn='AK'  
| +--ENDIF  
| +--IF 'ARKANSAS'=st  
| | stlst=stlst+', Arkansas'
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

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of 6  
51-100

```
|      stn='AR'  
|---ENDIF  
|---IF 'ARIZONA'=st  
|      stlst=stlst+', Arizona'  
|      stn='AZ'  
|---ENDIF  
|---IF 'CALIFORNIA'=st  
|      stlst=stlst+', California'  
|      stn='CA'  
|---ENDIF  
|---IF 'COLORADO'=st  
|      stlst=stlst+', Colorado'  
|      stn='CO'  
|---ENDIF  
|---IF 'CONNECTICUT'=st  
|      stlst=stlst+', Connecticut'  
|      stn='CT'  
|---ENDIF  
|---IF 'DELAWARE'=st  
|      stlst=stlst+', Delaware'  
|      stn='DE'  
|---ENDIF  
|---IF 'DISTRICT OF COLUMBIA'=st  
|      stlst=stlst+', District of Columbia'  
|      stn='DC'  
|---ENDIF  
|---IF 'FLORIDA'=st  
|      stlst=stlst+', Florida'  
|      stn='FL'  
|---ENDIF  
|---IF 'GEORGIA'=st  
|      stlst=stlst+', Georgia'  
|      stn='GA'  
|---ENDIF  
|---IF 'HAWAII'=st  
|      stlst=stlst+', Hawaii'  
|      stn='HI'  
|---ENDIF  
|---IF 'IDAHO'=st  
|      stlst=stlst+', Idaho'  
|      stn='ID'  
|---ENDIF  
|---IF 'ILLINOIS'=st  
|      stlst=stlst+', Illinois'  
|      stn='IL'  
|---ENDIF  
|---IF 'INDIANA'=st  
|      stlst=stlst+', Indiana'  
|      stn='IN'  
|---ENDIF
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

Pg 3  
of 6  
101-150

```
| ---IF 'IOWA'=st
|   stlst=stlst+', Iowa'
|   stn='IA'
+---ENDIF
+---IF 'KANSAS'=st
|   stlst=stlst+', Kansas'
|   stn='KS'
+---ENDIF
+---IF 'KENTUCKY'=st
|   stlst=stlst+', Kentucky'
|   stn='KY'
+---ENDIF
+---IF 'LOUISIANA'=st
|   stlst=stlst+', Louisiana'
|   stn='LA'
+---ENDIF
+---IF 'MAINE'=st
|   stlst=stlst+', Maine'
|   stn='ME'
+---ENDIF
+---IF 'MARYLAND'=st
|   stlst=stlst+', Maryland'
|   stn='MD'
+---ENDIF
+---IF 'MASSACHUSETTS'=st
|   stlst=stlst+', Massachusetts'
|   stn='MA'
+---ENDIF
+---IF 'MICHIGAN'=st
|   stlst=stlst+', Michigan'
|   stn='MI'
+---ENDIF
+---IF 'MINNESOTA'=st
|   stlst=stlst+', Minnesota'
|   stn='MN'
+---ENDIF
+---IF 'MISSISSIPPI'=st
|   stlst=stlst+', Mississippi'
|   stn='MS'
+---ENDIF
+---IF 'MISSOURI'=st
|   stlst=stlst+', Missouri'
|   stn='MO'
+---ENDIF
+---IF 'MONTANA'=st
|   stlst=stlst+', Montana'
|   stn='MT'
+---ENDIF
+---IF 'NEBRASKA'=st
|   stlst=stlst+', Nebraska'
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

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of 6  
151-200

```
| |      stn='NE'  
| +-ENDIF  
| +-IF 'NEVADA'=st  
| |      stlst=stlst+', Nevada'  
| |      stn='NV'  
| +-ENDIF  
| +-IF 'NEW HAMPSHIRE'=st  
| |      stlst=stlst+', New Hampshire'  
| |      stn='NH'  
| +-ENDIF  
| +-IF 'NEW JERSEY'=st  
| |      stlst=stlst+', New Jersey'  
| |      stn='NJ'  
| +-ENDIF  
| +-IF 'NEW MEXICO'=st  
| |      stlst=stlst+', New Mexico'  
| |      stn='NM'  
| +-ENDIF  
| +-IF 'NEW YORK'=st  
| |      stlst=stlst+', New York'  
| |      stn='NY'  
| +-ENDIF  
| +-IF 'NORTH CAROLINA'=st  
| |      stlst=stlst+', North Carolina'  
| |      stn='NC'  
| +-ENDIF  
| +-IF 'NORTH DAKOTA'=st  
| |      stlst=stlst+', North Dakota'  
| |      stn='ND'  
| +-ENDIF  
| +-IF 'OHIO'=st  
| |      stlst=stlst+', Ohio'  
| |      stn='OH'  
| +-ENDIF  
| +-IF 'OKLAHOMA'=st  
| |      stlst=stlst+', Oklahoma'  
| |      stn='OK'  
| +-ENDIF  
| +-IF 'OREGON'=st  
| |      stlst=stlst+', Oregon'  
| |      stn='OR'  
| +-ENDIF  
| +-IF 'PENNSYLVANIA'=st  
| |      stlst=stlst+', Pennsylvania'  
| |      stn='PA'  
| +-ENDIF  
| +-IF 'RHODE ISLAND'=st  
| |      stlst=stlst+', Rhode Island'  
| |      stn='RI'  
| +-ENDIF
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

Pg 5  
of 6  
201-250

```
| ---IF 'SOUTH CAROLINA'=st
|     stlst=stlst+', South Carolina'
|     stn='SC'
| ---ENDIF
| ---IF 'SOUTH DAKOTA'=st
|     stlst=stlst+', South Dakota'
|     stn='SD'
| ---ENDIF
| ---IF 'TEXAS'=st
|     stlst=stlst+', Texas'
|     stn='TX'
| ---ENDIF
| ---IF 'TENNESSEE'=st
|     stlst=stlst+', Tennessee'
|     stn='TN'
| ---ENDIF
| ---IF 'UNITED STATES'=st
|     stlst=stlst+', United States'
|     stn='US'
| ---ENDIF
| ---IF 'UTAH'=st
|     stlst=stlst+', Utah'
|     stn='UT'
| ---ENDIF
| ---IF 'VERMONT'=st
|     stlst=stlst+', Vermont'
|     stn='VT'
| ---ENDIF
| ---IF 'VIRGINIA'=st
|     stlst=stlst+', Virginia'
|     stn='VA'
| ---ENDIF
| ---IF 'WASHINGTON'=st
|     stlst=stlst+', Washington'
|     stn='WA'
| ---ENDIF
| ---IF 'WEST VIRGINIA'=st
|     stlst=stlst+', West Virginia'
|     stn='WV'
| ---ENDIF
| ---IF 'WISCONSIN'=st
|     stlst=stlst+', Wisconsin'
|     stn='WI'
| ---ENDIF
| ---IF 'WYOMING'=st
|     stlst=stlst+', Wyoming'
|     stn='WY'
| ---ENDIF
|
| * if stlst is empty, take off last character of entry to see if it matches
```

01-11-89 15:00:00 CHKSTAT2.PRG  
Wed 01-11-89 15:15:18

Pg 6  
of 6  
251-273

```
| ---IF LEN(stlst)=0
|   |   st=SUBSTR(st,1,LEN(st)-1)
|   |   stln=LEN(st)
|
|   * if all entry characters removed, set special code, and exit do-while
|   |   ---IF stln=0
|   |   |   ok=.t.
|   |   |   stlst="--,--"
|   |   ---ENDIF
|
|   * if stlst has possible names, set ok to true (for ok to leave do-while)
|   ---ELSE
|   |   ok=.t.
|   ---ENDIF
|
|   * end of search for possible matches with state names
---ENDDO

* strip off first two characters to eliminate leading ',  

stlst=SUBSTR(stlst,3)
st=stn
```

RETURN

01-11-89 15:00:00 CHKSTATE.PRG  
Wed 01-11-89 15:15:01

Pg 1  
of 1  
1-39

```
*****  
*- CHKSTATE.PRG -- Last Update 01/11/89  
*- Copyright (c) 1988,1989 by John A. Kinast  
*- All Rights Reserved  
*- written for CERL  
*****  
*- attempt to decipher state entry  
*****  
*  
stn=""  
DO chkstat2  
  
* if ',' is found in list, more than one state name is present  
* need to print additional help message  
+--IF AT(",", stlst)>0  
| st=""  
| ok=.f.  
| @ 23,1 CLEAR TO 24,78  
  
| * if special code found, then say that no match found  
| +--IF stlst=",--"  
| | @ 23,2 SAY "No match found for the name"  
| | @ 24,2 SAY "Please check your spelling"  
  
| * if regular names are present, display them as possible matches  
| +--ELSE  
| | @ 23,2 SAY "Enter the name more completely. Possible matches are:"  
| | @ 24,2 SAY SUBSTR(stlst,1,76)  
  
| +--ENDIF  
  
| * stlst contains only one state name, so it must be a match  
+--ELSE  
| * set st to value found when matching entry  
| st=stn  
+--ENDIF  
  
* return to called routine  
RETURN
```

```
*****
* COALBLD.PRG -- Last update 01/11/89
* Copyright (C) 1988,1989 -- John A. Kinast
* All Rights Reserved
* written expressly for CERL
*****
* build database on coal fields from txt file
*****
*
CLEAR
CLEAR ALL
SET TALK OFF
SET CONSOLE ON
SET DEVICE TO SCREEN
SET MARGIN TO 0

* loop to process user requests
ans=" "
---DO WHILE ans<> "Q"
|   CLEAR
|   @ 1,0 TO 3,79
|   @ 2,3 SAY "COALBLD database building routine"
|   @ 2,69 SAY DATE()
|   @ 8,15 SAY "Add to COALFIELD database"
|   @ 10,15 SAY "Split COALFIELD database into smaller files"
|   @ 12,15 SAY "Quit COALBUILD program"
|   @ 15,15 SAY "Option (A/S/Q) " + CHR(174) +" " + CHR(175)
|   ans=" "
|   ---DO WHILE AT (ans, "ASQ")=0
|       ans=" "
|       @ 15,32 GET ans PICTURE "!"
|       READ
|   ---ENDDO

*****
* section for quitting
|
|   ---IF ans="Q"
|       LOOP
|   ---ENDIF

*****
* section for adding to coalfiel.dbf from smaller files
|
|   ---IF ans="A"
|       @ 5,0 CLEAR
|       @ 8,10 SAY "Adding to the COALFIELD database"
|       ---IF FILE ("coalfiel.dbf")
```

01-11-89 15:00:00 COALBLD.PRG  
Wed 01-11-89 15:16:01

Pg 2  
of 5  
51-100

```
| | | USE coalfiel
| | +--IF RECCOUNT(>0
| | | @ 12,10 SAY "The COALFIELD database has " ;
| | | +LTRIM(STR(RECCOUNT())) + " entries in it."
| | | ok=.f.
| | | @ 14,10 SAY "Do you want to clear them before ";
| | | +"adding? (Y/N)" GET ok PICTURE "Y"
| | | READ
| | | +--IF ok
| | | | ok=.f.
| | | | @ 16,10 SAY "Are you sure? (Y/N)" GET ok PICTURE "Y"
| | | | READ
| | | +--ENDIF

* if COALFIEL is to be cleared, zap it, then recreate index files
| | +--IF ok
| | | SET SAFETY OFF
| | | ZAP
| | | INDEX ON state TO coalfiel
| | | INDEX ON code_no TO coalcode
| | | SET SAFETY ON
| | | CLOSE DATABASES
| | | @ 18,10 SAY "COALFIELD database cleared."
| | +--ENDIF

* let user know COALFIEL has no entries in it
| | +--ELSE
| | | @ 16,10 SAY "The COALFIELD database has no entries."
| | +--ENDIF

* let user know COALFIEL was not present and will be created, if it can
| | +--ELSE
| | | @ 12,10 SAY "COALFIEL database file not present. "
| | | @ 14,10 SAY "It will be built from the first data file."
| | +--ENDIF

* wait before clearing screen display
| | ky= " "
| | @ 22,10 SAY "Press any key to continue..." GET ky
| | READ

* check with user to make sure he is ready to add
| | @ 5,0 CLEAR
| | ok=.f.
| | @ 8,10 SAY "Ready to add to COALFIEL? (Y/N)" GET ok PICTURE "Y"
| | READ
| | +--IF .NOT. ok
| | | LOOP
| | +--ENDIF
```

01-11-89 15:00:00 COALBLD.PRG  
Wed 01-11-89 15:16:01

Pg 3  
of 5  
101-150

```
| * loop through possible file names
|     @ 10,10 SAY "Searching for COALFIEL data files"
|     i=1
|     fc=0
|     fnd=.f.
|     +-DO WHILE i<100
|         f1="COALFL" +LTRIM(STR(i)) +".DBF"
|         @ 12,10 SAY "Looking for " +f1 +
|         +-IF FILE(f1)
|             fc=fc+1
|             @ 12,10 SAY "Found " +f1 +". Adding to COALFIEL."
|             fnd=.t.

|             +-IF FILE("coalfield.dbf")
|                 USE coalfield
|                 APPEND FROM &f1
|             +-ELSE
|                 USE &f1
|                 COPY TO coalfield
|             +-ENDIF

|             CLOSE DATABASES
|         +-ENDIF
|         i=i+1
|     +-ENDDO

* announce to user total files found, then reindex COALFIEL
|     +-IF fc>0
|         @ 14,10 SAY LTRIM(STR(fc)) +" files found."

|         @ 16,10 SAY "Updating index files for COALFIEL."
|         @ 17,14 SAY "Indexing coal fields by state"
|         USE coalfield
|         SET SAFETY OFF
|         INDEX ON state TO coalfield
|         SET SAFETY ON
|         @ ROW(),COL() SAY " - done"

|         @ 18,14 SAY "Indexing coal fields by code number"
|         SET SAFETY OFF
|         INDEX ON code_no TO coalcode
|         SET SAFETY ON
|         CLOSE DATABASES
|         @ ROW(),COL() SAY " - done"

* let user know that no files were found
|     +-ELSE
|         @ 14,10 SAY "No files found."
|     +-ENDIF
```

01-11-89 15:00:00 COALBLD.PRG  
Wed 01-11-89 15:16:01

Pg 4  
of 5  
151-200

```
| * wait before clearing screen display
|   |   ky=" "
|   |   @ 22,10 SAY "Press any key to continue..." GET ky
|   |   READ
|   |   LOOP
|   ---ENDIF

=====
* section for splitting up coalfiel.dbf into smaller files

+--IF ans="S"
|   @ 5,0 CLEAR
|
* let user know that COALFIEL was not found, and cannot be split
|   +--IF .NOT. FILE("coalfiel.dbf")
|       |   @ 5,0 CLEAR
|       |   @ 10,10 SAY "COALFIEL.DBF database file was not found."
|       |   @ 12,10 SAY "The file must be present to split it ";
|       |   +"into smaller data files."
|
* wait before clearing screen display
|   |   ky=" "
|   |   @ 22,10 SAY "Press any key to continue..." GET ky
|   |   READ
|   |   LOOP
|   ---ENDIF

* proceed with splitting up, if everything is ready
|   @ 5,0 CLEAR
|   ok=.f.
|   @ 8,10 SAY "Ready to split COALFIEL? (Y/N)" GET ok PICTURE "Y"
|   READ
|   +--IF .NOT. ok
|       |   LOOP
|   ---ENDIF

* loop to split up COALFIEL.dbf into smaller files (700 records each)
|   @ 8,10 SAY "Splitting COALFIELD database into smaller files,"
|   i=1
|   USE coalfiel
|   +--DO WHILE i<100 .AND. .NOT. EOF()
|       |   fl="COALFL" +LTRIM(STR(i)) +".DBF"
|       |   @ 12,10 SAY "Creating " +fl +".
|       |   SET SAFETY OFF
|       |   COPY NEXT 700 TO &fl
|       |   SET SAFETY ON
|       +--IF .NOT. EOF()
|           |   SKIP
|       ---ENDIF
```

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```
| | | i=i+1
| | +--ENDDO
| | CLOSE DATABASES
| | @ 14,10 SAY LTRIM(STR(i-1)) +" files created."
|
| * erase any remaining old data files
| | +--DO WHILE i<100
| | | f1="COALFL" +LTRIM(STR(i)) +".DBF"
| | | +--IF FILE(f1)
| | | | ERASE &f1
| | | +--ENDIF
| | | i=i+1
| | +--ENDDO
|
| * wait before clearing screen display
| | ky=" "
| | @ 22,10 SAY "Press any key to continue..." GET ky
| | READ
| | +--ENDIF
|
+--ENDDO

CLEAR ALL
SET TALK ON
RETURN
```

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Wed 01-11-89 15:16:38

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1-50

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51-93

```
| @ ROW(),COL() SAY " - done"  
|  
| @ ROW()+1,15 SAY "Indexing coal fields by code number"  
| SET SAFETY OFF  
| INDEX ON code_no TO coalcode  
| SET SAFETY ON  
| @ ROW(),COL() SAY " - done"  
|  
| @ ROW()+1,15 SAY "Indexing coal fields by distance value"  
| SET SAFETY OFF  
| INDEX ON dist_from TO coaldist  
| SET SAFETY ON  
| CLOSE DATABASES  
| @ ROW(),COL() SAY " - done"  
|  
| +-+IF NOT. clipper  
| | ON ESCAPE  
| +-+ENDIF  
|  
+-+ENDIF  
  
* clear key entries  
c=1  
+-+DO WHILE c<>0  
| | c=INKEY()  
+-+ENDDO  
  
* print message to continue  
@ 24,20 SAY "Press any key to continue..."  
  
* wait for key press  
c=0  
+-+DO WHILE c=0  
| | c=INKEY()  
+-+ENDDO  
  
* run main coalfield routine  
DO coalfld0  
  
CLEAR ALL  
CLEAR  
SET TALK ON  
RETURN
```

```
*****  
* COALFLD0.PRG -- Last update 01/11/89  
* Copyright (C) 1988,1989 -- John A. Kinast  
* All Rights Reserved  
* written expressly for CERL  
*****  
* update database on coal fields  
*****  
*  
USE coalfiel INDEX coalfiel, coalcode  
SET DELETED ON  
GO top  
lv=.t.  
ans=""  
currec=0  
lstrec=0  
* loop through options until done.  
+--DO WHILE ans<>"Q"  
| * display coal field screen  
| DO coalscr  
|  
| * ask for option  
| @ 22,10 SAY "Edit field / Add field / move Forward / move Backward"  
| @ 23,10 SAY "Delete field / change Views / Print field list / Quit"  
| @ 24,10 SAY "Option (E/A/F/B/D/V/P/Q) " +CHR(174) +" " +CHR(175)  
| ans=""  
+--DO WHILE AT(ans,"EAFBDVPO")=0  
| ans=""  
| @ 24,40 GET ans PICTURE "!"  
| READ  
+--ENDDO  
  
* to move forward  
+--IF ans="F"  
| +--IF lv  
| | +--IF .NOT. EOF()  
| | | SKIP  
| | | +--IF EOF()  
| | | | GO BOTTOM  
| | | +--ENDIF  
| | +--ENDIF  
| +--ELSE  
| | +--IF .NOT. EOF()  
| | | SKIP 13  
| | | +--IF EOF()  
| | | | GO top  
| | | +--ENDIF  
| | +--ENDIF
```

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51-100

```
| |    +-ENDIF
| |
| +-ENDIF

* to move backward
+-IF ans="B"
| +-IF lv
| | +-IF .NOT. EOF()
| | | SKIP -1
| | | +-IF BOF()
| | | | GO top
| | | +-ENDIF
| | +-ENDIF
| +-ELSE
| | +-IF .NOT. EOF()
| | | SKIP -13
| | | +-IF BOF()
| | | | GO BOTTOM
| | | +-ENDIF
| | +-ENDIF
| +-ENDIF
+-ENDIF

+-IF ans="D"
| +-IF .NOT. lv
| | i=7
| | @ i,0 SAY " "
| | ans= "+"
| | @ 22,0 CLEAR
| | @ 22,5 SAY CHR(24) +CHR(25) +" to move indicator / Delete ";
| | +"indicated base / Quit without deleting"
| | @ 23,5 SAY "Option (" +CHR(24) +"/" +CHR(25) +"/D/Q)      ";
| | +CHR(174) +" " +CHR(175)
| | cq=1
| | ans= " "
| +-DO WHILE ans<>"D" .AND. ans<>"Q"
| | @ i,0 SAY CHR(175)+CHR(175)+CHR(175)
| | +-IF cq>0
| | | sq= " "
| | | @ 23,27 GET sq
| | | CLEAR GETS
| | | @ 23,27 SAY ""
| | | cq=0
| | +-ENDIF
| | +-DO WHILE AT( CHR(cq),"DdQq"+CHR(5)+CHR(24) )=0
| | | cq=INKEY()
| | +-ENDDO
| | +-DO CASE
| | | CASE cq=5
| | | | sq=CHR(24)
| | | CASE cq=24
```

```
| | | | |     sq=CHR(25)
| | | | |     CASE cq=68 .OR. cq=100
| | | | |         sq="D"
| | | | |         ans="D"
| | | | |     CASE cq=81 .OR. cq=113
| | | | |         sq="Q"
| | | | |         ans="Q"
| | | | +---ENDCASE
| | | | @ 23,27 GET sq
| | | | CLEAR GETS
| | | +---IF cq=68 .OR. cq=100 .OR. cq=81 .OR. cq=113
| | | | | LOOP
| | | | +---ENDIF
| | | | +---IF cq=24
| | | | | +---IF RECNO()<>lstrec
| | | | | | @ i,0 SAY " "
| | | | | | i=i+1
| | | | | | SKIP
| | | | | +---ENDIF
| | | | +---ENDIF
| | | | +---IF cq=5
| | | | | +---IF RECNO()<>currec
| | | | | | @ i,0 SAY " "
| | | | | | i=i-1
| | | | | | SKIP -1
| | | | | +---ENDIF
| | | | +---ENDIF
| | | +---ENDDO
| | | | currec=RECNO()
| | +---ENDIF
| | @ 22,0 CLEAR

* if user wanted to quit from deleting, loop to end
| +---IF ans="Q"
| | ans=" "
| | LOOP
| +---ENDIF

* check with user whether to delete
| +---IF .NOT. EOF()
| | ok=.f.
| | @ 22,15 SAY "Delete this coalfield? (Y/N)" GET ok PICTURE "Y"
| | READ
| | +---IF ok
| | | @ 23,15 SAY "Are you sure? (Y/N)" GET ok PICTURE "Y"
| | | READ
| | | +---ENDIF
| | +---IF ok
| | | DELETE
| | | SKIP
```

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```
| | | | +-IF EOF()
| | | |   GO top
| | | +-ENDIF
| | +-ENDIF
| +-ELSE
|   @ 22,15 SAY "A coalfield must be present to be deleted."
|   ans=" "
|   @ 23,15 SAY "Press any key to continue..." GET ans
|   READ
|   ans="+"
| +-ENDIF
+-ENDIF

+-IF ans="V"
|   lv =IIF( lv, .f., .t.)
+-ENDIF

+-IF ans="P"
|   DO coalprt
|   ans="+"
+-ENDIF

* if adding record is wanted
+-IF ans="A"
|   APPEND BLANK
* set up to edit blank record
|   ans="E"
|   lv=.t.
+-ENDIF

+-IF ans="E"
|   +-IF .NOT. lv
|   |   i=7
|   |   @ j,0 SAY "          "
|   |   ans="+"
|   |   @ 20,0 CLEAR
|   |   @ 22,5 SAY CHR(24) +CHR(25) +" to move indicator / Edit ";
|   |   +"indicated base / Quit without editing"
|   |   @ 23,5 SAY "Option (" +CHR(24) +"/" +CHR(25) +"/E/Q)      ";
|   |   +CHR(174) +" " +CHR(175)
|   cq=1
|   ans=" "
|   +-DO WHILE ans<>"E" .AND. ans<>"Q"
|       @ i,0 SAY CHR(175)+CHR(175)+CHR(175)
|       +-IF cq>0
|           |   sq=" "
|           |   @ 23,27 GET sq
|           |   CLEAR GETS
|           |   @ 23,27 SAY ""
|           cq=0
```

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```
| | | | +--ENDIF
| | | | +--DO WHILE AT( CHR(cq),"EeQq"+CHR(5)+CHR(24) )=0
| | | | | cq=INKEY()
| | | | +--ENDDO
| | | | +--DO CASE
| | | | | CASE cq=5
| | | | | | sq=CHR(24)
| | | | | CASE cq=24
| | | | | | sq=CHR(25)
| | | | | CASE cq=69 .OR. cq=101
| | | | | | sq="E"
| | | | | | ans="E"
| | | | | CASE cq=81 .OR. cq=113
| | | | | | sq="Q"
| | | | | | ans="Q"
| | | | +--ENDCASE
| | | | @ 23,27 GET sq
| | | | CLEAR GETS
| | | | +--IF cq=69 .OR. cq=101 .OR. cq=81 .OR. cq=113
| | | | | LOOP
| | | | +--ENDIF
| | | | +--IF cq=24
| | | | | +--IF RECNO()<>1strec
| | | | | | @ i,0 SAY " "
| | | | | | i=i+1
| | | | | | SKIP
| | | | | +--ENDIF
| | | | +--ENDIF
| | | | +--IF cq=5
| | | | | +--IF RECNO()<>currec
| | | | | | @ i,0 SAY " "
| | | | | | i=i-1
| | | | | | SKIP -1
| | | | | +--ENDIF
| | | | +--ENDIF
| | | | +--ENDDO
| | | | currec=RECNO()
| | | +--ENDIF

* if user wants to quit out of editing, loop to bottom
| | +--IF ans="Q"
| | | ans=" "
| | | LOOP
| | +--ENDIF

* otherwise, proceed with editing
| | | lv=.t.
| | | ans="C"
| | | ok=.f.
| | | redraw=.t.
```

```
    |      ttlmsg=.f.
    |      q=5
    |      lst=5
    |      nxt=5
    |      REPLACE last_chg WITH DATE()
    |      +-DO WHILE ans="C"
    |
    * display coal field database screen if necessary
    |      +-IF redraw
    |          |      DO coalscr
    |          |      redraw=.f.
    |      +-ENDIF
    |
    * clear screen message area
    |      @ 22,0 CLEAR
    |
    * process entry based on value of q (pointer)
    |      +-DO CASE
    |      |
    *          CASE q=1
    *      @ 24,1 clear to 24,78
    *      @ 24,2 say 'prompt'
    *      ok=.f.
    *      do while .not. ok
    *          @ \,\ get \ picture ''
    *          read
    *          ok=.t.
    *      enddo
    *      lst=
    *      nxt=
    |
    * enter state
    |      |      CASE q=5
    |      |      @ 24,1 CLEAR TO 24,78
    |      |      @ 23,2 SAY 'Enter two-letter state abbreviation or name'
    |      |      ok=.f.
    |      |      +-DO WHILE .NOT. ok
    |      |          |      st=state+SPACE(18)
    |      |          |      stlst=""
    |      |          |      @ 3,10 GET st PICTURE "XXXXXXXXXXXXXXXXXXXX"
    |      |          |      READ
    |      |          |      rdky=READKEY()
    |      |          +-IF rdky=12 .OR. rdky=268
    |      |              |      ok=.t.
    |      |              |      st=""
    |      |          +-ELSE
    |      |              |      DO chkstate
    |      |          +-ENDIF
    |      |      +-ENDDO
    |      |      +-IF rdky=12 .OR. rdky=268
```

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```
| | | | st=state
| | | | DO idstate
| | | | +-ELSE
| | | | | REPLACE state WITH st
| | | | +-ENDIF
| | | | | st=st + " - " +stlst
| | | | | @ 3,10 GET st
| | | | | CLEAR GETS
| | | | | lst=5
| | | | | nxt=10

* enter location
| | | | CASE q=10
| | | | | @ 23,2 SAY 'Enter location of coal'
| | | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | | @ 3,47 GET location
| | | | | | READ
| | | | | | ok=.t.
| | | | +-ENDDO
| | | | | lst=5
| | | | | nxt=15

* enter county
| | | | CASE q=15
| | | | | @ 23,2 SAY 'Enter county in which field is located'
| | | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | | @ 4,11 GET county
| | | | | | READ
| | | | | | ok=.t.
| | | | +-ENDDO
| | | | | lst=10
| | | | | nxt=20

* get latitude of coal field
| | | | CASE q=20
| | | | | @ 23,2 SAY 'Enter north latitude of field (dddmmsss)'
| | | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | | clat=STR(latitude,7)
| | | | | | lat_1 =VAL( SUBSTR(clat,1,3) )
| | | | | | lat_2 =VAL( SUBSTR(clat,4,2) )
| | | | | | lat_3 =VAL( SUBSTR(clat,6,2) )
| | | | | | @ 4,47 GET lat_1 PICTURE "##"
| | | | | | @ 4,51 GET lat_2 PICTURE "##"
| | | | | | @ 4,54 GET lat_3 PICTURE "##"
| | | | | | READ
| | | | | | ok= lat_1>24 .AND. lat_1<73
| | | | | | ok= ok .AND. lat_2>-1 .AND. lat_2<60
```

```
| | | | | ok= ok .AND. lat_3>-1 .AND. lat_3<60
| | | | | ok= ok .OR. READKEY()=12
| | | | +--IF .NOT. ok
| | | | | @ 24,2 SAY "Latitude must be in 25-72 deg range"
| | | | +--ENDIF
| | | +--ENDDO
| | | | clat =STR(lat_1,3) +STR(lat_2,2) +STR(lat_3,2)
| | | +--IF SUBSTR(clat,4,1)+"|" = " |"
| | | | clat =SUBSTR(clat,1,3) +"0" +SUBSTR(clat,5)
| | | +--ENDIF
| | | +--IF SUBSTR(clat,6,1)+"|" = " |"
| | | | clat =SUBSTR(clat,1,5) +"0" +SUBSTR(clat,7)
| | | +--ENDIF
| | | REPLACE latitude WITH VAL(clat)
| | | lst=15
| | | nxt=25

* get longitude of coal field
| | | CASE q=25
| | | | @ 23,2 SAY 'Enter west longitude of field (dddmrss)'
| | | | ok=.f.
| | | +--DO WHILE .NOT. ok
| | | | | clon=STR(longitude,7)
| | | | | lon_1 =VAL( SUBSTR(clon,1,3) )
| | | | | lon_2 =VAL( SUBSTR(clon,4,2) )
| | | | | lon_3 =VAL( SUBSTR(clon,6,2) )
| | | | | @ 4,67 GET lon_1 PICTURE "###"
| | | | | @ 4,71 GET lon_2 PICTURE "##"
| | | | | @ 4,74 GET lon_3 PICTURE "##"
| | | | | READ
| | | | | ok= lon_1>62 .AND. lon_1<173
| | | | | ok= ok .AND. lon_2>-1 .AND. lon_2<60
| | | | | ok= ok .AND. lon_3>-1 .AND. lon_3<60
| | | | | ok= ok .OR. READKEY()=12
| | | | +--IF .NOT. ok
| | | | | @ 24,2 SAY "Longitude must be in 63-172 deg range"
| | | | +--ENDIF
| | | +--ENDDO
| | | | clon =STR(lon_1,3) +STR(lon_2,2) +STR(lon_3,2)
| | | +--IF SUBSTR(clon,4,1)+"|" = " |"
| | | | clon =SUBSTR(clon,1,3) +"0" +SUBSTR(clon,5)
| | | +--ENDIF
| | | +--IF SUBSTR(clon,6,1)+"|" = " |"
| | | | clon =SUBSTR(clon,1,5) +"0" +SUBSTR(clon,7)
| | | +--ENDIF
| | | REPLACE longitude WITH VAL(clon)
| | | lst=20
| | | nxt=30

* get moisture of coal sample
```

```
| | | | CASE q=30
| | | | @ 23,2 SAY 'Enter Proximate Analysis, wt %, moisture of coal'
| | | | ok=.f.
| | | | ---DO WHILE .NOT. ok
| | | | | @ 7,15 GET MOISTURE
| | | | | READ
| | | | | ok=( moisture>=0 .AND. moisture<=60 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | ---IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24,78
| | | | | | @ 24,2 SAY "Value should be between 0% and 60%"
| | | | | ---ENDIF
| | | | ---ENDDO
| | | | lst=25
| | | | nxt=35

* get fixed carbon component of coal sample
| | | | CASE q=35
| | | | @ 23,2 SAY 'Enter Proximate Analysis (wt %) ' ;
| | | | +'of Fixed Carbon on a dry basis'
| | | | ---IF ttmsg
| | | | | @ 24,2 SAY "Volatile, Fixed Carbon, and Ash ";
| | | | | +"values should total 100 %. Please check."
| | | | ---ENDIF
| | | | ok=.f.
| | | | ---DO WHILE .NOT. ok
| | | | | @ 9,19 GET FIXED_CRBN
| | | | | READ
| | | | | ok=( fixed_crbn>=20 .AND. fixed_crbn<=99 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | ---IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24,78
| | | | | | @ 24,2 SAY "Value should be between 20% and 99%"
| | | | | ---ENDIF
| | | | ---ENDDO
| | | | lst=30
| | | | nxt=40

* get volatile component of coal sample
| | | | CASE q=40
| | | | @ 23,2 SAY "Enter Proximate Analysis (wt %) ";
| | | | +' of Volatiles on a dry basis"
| | | | ---IF ttmsg
| | | | | @ 24,2 SAY "Volatiles, Fixed Carbon, and Ash ";
| | | | | +"values should total 100 %. Please check."
| | | | ---ENDIF
| | | | ok=.f.
| | | | ---DO WHILE .NOT. ok
| | | | | @ 9,41 GET VOLATILE
| | | | | READ
```

```
| | | | ok=( volatile>=0 .AND. volatile<=60 ) .OR. ;  
| | | | READKEY( )=12 .OR. READKEY( )=268  
| | | +--IF .NOT. ok  
| | | | @ 24.1 CLEAR TO 24.78  
| | | | @ 24.2 SAY "Value should be between 0% and 60%"  
| | | +--ENDIF  
| | +--ENDDO  
| | lst=35  
| | nxt=45  
  
* get ash component of coal sample  
| | CASE q=45  
| | | @ 23.2 SAY 'Enter Proximate Analysis (wt %) '  
| | | +'of Ash on a dry basis'  
| | +--IF ttmsg  
| | | @ 24.2 SAY "Volatile, Fixed Carbon, and Ash "  
| | | +"values should total 100 %. Please check."  
| | +--ENDIF  
| | ok=.f.  
| | +--DO WHILE .NOT. ok  
| | | @ 9,58 GET ASH  
| | | READ  
| | | ok=( ash>=0 .AND. ash<=50 ) .OR.  
| | | READKEY( )=12 .OR. READKEY( )=268  
| | | +--IF .NOT. ok  
| | | | @ 24.1 CLEAR TO 24.78  
| | | | @ 24.2 SAY "Value should be between 0% and 50%"  
| | | +--ENDIF  
| | +--ENDDO  
| | lst=40  
| | nxt=50  
  
* get carbon (ultimate analysis)  
| | CASE q=50  
| | | @ 23.2 SAY 'Enter Carbon (%) on a dry basis'  
| | | ok=.f.  
| | +--DO WHILE .NOT. ok  
| | | @ 12,13 GET carbon  
| | | READ  
| | | ok=( carbon>=20 .AND. carbon<=99 ) .OR. ;  
| | | READKEY( )=12 .OR. READKEY( )=268  
| | | +--IF .NOT. ok  
| | | | @ 24.1 CLEAR TO 24.78  
| | | | @ 24.2 SAY "Value should be between 20% and 99%"  
| | | +--ENDIF  
| | +--ENDDO  
| | lst=45  
| | nxt=55  
  
* get hydrogen (ultimate analysis)
```

```
| | | | CASE q=55
| | | | @ 23,2 SAY 'Enter hydrogen (%) on a dry basis'
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 12,36 GET hydrogen
| | | | | READ
| | | | | ok=( hydrogen>=0 .AND. hydrogen<=30 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | +-IF .NOT. ok
| | | | | | @ 23,1 CLEAR TO 24,78
| | | | | | @ 23,2 SAY "Value should be between 0% and 30%"
| | | | | +-ENDIF
| | | | +-ENDDO
| | | | lst=50
| | | | nxt=60

* get nitrogen (ultimate analysis)
| | | | CASE q=60
| | | | @ 23,2 SAY 'Enter nitrogen (%) on a dry basis'
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 12, 57 GET nitrogen
| | | | | READ
| | | | | ok=( nitrogen>=0 .AND. nitrogen<=30 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | +-IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24,78
| | | | | | @ 24,2 SAY "Value should be between 0% and 30%"
| | | | | +-ENDIF
| | | | +-ENDDO
| | | | lst=55
| | | | nxt=62

* get sulfur (ultimate analysis)
| | | | CASE q=62
| | | | @ 23,2 SAY 'Enter sulfur (%) on a dry basis'
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 13,13 GET sulfur
| | | | | READ
| | | | | ok=( sulfur>=0 .AND. sulfur<=20 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | +-IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24,78
| | | | | | @ 24,2 SAY "Value should be between 0% and 20%"
| | | | | +-ENDIF
| | | | +-ENDDO
| | | | lst=60
| | | | nxt=64
```

```
| * get oxygen (ultimate analysis)
| | | CASE q=64
| | | | @ 23,2 SAY 'Enter oxygen (%) on a dry basis'
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 13,36 GET oxygen .
| | | | | READ
| | | | | ok=( oxygen>=0 .AND. oxygen<=50 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268
| | | | | +-IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24.78
| | | | | | @ 24,2 SAY "Value should be between 0% and 50%"
| | | | | +-ENDIF
| | | | +-ENDDO
| | | | lst=62
| | | | nxt=66
|
| * get gross calorific value
| | | CASE q=66
| | | | @ 23,2 SAY 'Enter Gross Calorific Value (dry)'
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 16,34 GET hhv_dry
| | | | | READ
| | | | | ok=( hhv_dry>=5000 .AND. hhv_dry<=20000 ) .OR. ;
| | | | | READKEY()=12 .OR. READKEY()=268 .OR. hhv_dry=0
| | | | | +-IF .NOT. ok
| | | | | | @ 24,1 CLEAR TO 24.78
| | | | | | @ 24,2 SAY "Value should be between 5000 ";
| | | | | | +"and 20000 Btu/lb"
| | | | | +-ENDIF
| | | | +-ENDDO
| | | | lst=64
| | | | nxt=70
|
| * get rank of coal sample
| | | CASE q=70
| | | | @ 22,2 SAY "Enter Rank of coal field -- Bituminous ";
| | | | +"/ Sub-Bituminous / Lignite / "
| | | | @ 23,6 SAY "Anthracite / Semi-Anthracite -- (B/SB/L/A/SA)"
| | | | ok=.f.
| | | | +-DO WHILE .NOT. ok
| | | | | @ 16,62 GET rank PICTURE "!!!!"
| | | | | READ
| | | | | crank=LTRIM(TRIM(rank))
| | | | | REPLACE rank WITH crank
| | | | | crank= "|" +crank +"|"
| | | | | ok= crank $ " |B| |SB| |L| |A| |SA| " .OR. ;
| | | | | READKEY()=12
| | | | | +-IF .NOT. ok
```

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Wed 01-11-89 15:16:53

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601-649

```
| | | | |   @ 24,2 SAY "Allowable values are: B SB L A SA"  
| | | | |   +-ENDIF  
| | | | +-ENDDO  
| | | |   lst=66  
| | | |   nxt=75  
  
| | | * get ash fusion temperature (softening value, h=1/2w)  
| | | CASE q=75  
| | |   @ 23,2 SAY "Enter ash fusion temperature, softening value"  
| | |   ok=.f.  
| | |   +-DO WHILE .NOT. ok  
| | |   |   @ 17,32 GET aft_s  
| | |   |   READ  
| | |   |   ok= ( aft_s>1000 .AND. aft_s<3500 ) .OR. ;  
| | |   |   READKEY()=12 .OR. READKEY()=268 .OR. aft_s=0  
| | |   |   +-IF .NOT. ok  
| | |   |   |   @ 24,1 CLEAR TO 24,78  
| | |   |   |   @ 24,2 SAY "Value should be between 1000" ;  
| | |   |   |   +CHR(248) +"F and 3500" +CHR(248) +"F"  
| | |   |   +-ENDIF  
| | |   +-ENDDO  
| | |   lst=70  
| | |   nxt=80  
  
| | | * get hardgrove grindability index of coal sample  
| | | CASE q=80  
| | |   @ 23,2 SAY 'Enter the Hardgrove Grindability Index for the  
| | |   coal'  
| | |   ok=.f.  
| | |   +-DO WHILE .NOT. ok  
| | |   |   @ 18, 35 GET HRDGRV_GRD  
| | |   |   READ  
| | |   |   ok=( hrdgrv_grd>=20 .AND. hrdgrv_grd<=120 ) .OR. ;  
| | |   |   READKEY()=12 .OR. READKEY()=268 .OR. hrdgrv_grd=0  
| | |   |   +-IF .NOT. ok  
| | |   |   |   @ 24,1 CLEAR TO 24,78  
| | |   |   |   @ 24,2 SAY "Value should be between 20 and 120"  
| | |   |   +-ENDIF  
| | |   +-ENDDO  
| | |   lst=75  
| | |   nxt=85  
  
| | | * get free swelling index for the coal sample  
| | | CASE q=85  
| | |   @ 23,2 SAY 'Enter the Free Swelling Index for the coal'  
| | |   ok=.f.  
| | |   +-DO WHILE .NOT. ok  
| | |   |   @ 18,65 GET FREE_SWELL  
| | |   |   READ  
| | |   |   ok=( free_swell>=0 .AND. free_swell<10 ) .OR. ;
```

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Wed 01-11-89 15:16:53

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650-699

```
| | | | READKEY()=12 .OR. READKEY()=268
| | | | +--IF .NOT. ok
| | | | | @ 24,1 CLEAR TO 24,78
| | | | | @ 24,2 SAY "Value should be between 0 and 9"
| | | | +--ENDIF
| | | +--ENDDO
| | | | lst=80
| | | | nxt=90
|
* get the code number for the coal
| | | CASE q=90
| | | | @ 23,2 SAY 'Enter the Code Number for the coal'
| | | | ok=.f.
| | | | mcode_no=code_no
| | | +--DO WHILE .NOT. ok
| | | | | mcode_no=SUBSTR(mcode_no+REPLICATE(" ",20),1,20)
| | | | | @ 19,18 GET mcode_no
| | | | | READ
| | | | | mcode_no=UPPER(LTRIM(mcode_no))
|
* check to see that the code number is unique
| | | | +--IF LEN(TRIM(mcode_no))>0
| | | | | rc=RECNO()
| | | | | SET ORDER TO 2
| | | | | SEEK mcode_no
| | | | | +--IF rc=RECNO() .OR. EOF()
| | | | | | ok=.t.
| | | | +--ELSE
| | | | | | @ 24,0
| | | | | | @ 24,2 SAY "Code number must be unique. ";
| | | | | | +"Your entry is a duplicate."
| | | | +--ENDIF
| | | | | SET ORDER TO 1
| | | | | GOTO rc
| | | | +--ELSE
| | | | | | @ 24,0
| | | | | | @ 24,2 SAY "Code number must not be blank."
| | | | +--ENDIF
| | | +--ENDDO
| | | | lst=85
| | | | nxt=95
|
* get any notes/comments
| | | CASE q=95
| | | | @ 24,2 SAY "Enter any pertinent comments"
| | | | ok=.f.
| | | +--DO WHILE .NOT. ok
| | | | | @ 20,11 GET cmmnt
| | | | | READ
| | | | | ok=.t.
```

```
| | | | +-+ENDDO
| | | |   lst=90
| | | |   nxt=101
| | |
| | | +-+ENDCASE
|
| * find out what key was used to finish entry
| |   rdky=READKEY()
| |   rdky =IIF( rdky>255, rdky-256, rdky)
|
| * if key was <Up arrow> or <Pg Up>, go to last (previous entry)
| |   +-+IF rdky=4 .OR. rdky=6
| |   |   q=lst
| * otherwise, go to next entry
| |   +-+ELSE
| |   |   q=nxt
| |   +-+ENDIF
|
| * if <ESC> key was hit, set q to ask whether they are done
| |   +-+IF rdky=12
| |   |   q=101
| |   +-+ENDIF
|
| * check to see if volatile+fixed carbon+ash = 100%
| |   ttlprox =volatile +fixed_crbn +ash
| |   +-+IF ttlprox<>0
| |   |   ctlprox =STR(tt!prox,7,2)
| |   |   +-+IF ctlprox<>" 100.00"
| |   |   |   @ 9,68 SAY "not = 100%"
| |   |   +-+ELSE
| |   |   |   @ 9,68 SAY "
| |   |   +-+ENDIF
| |   +-+ENDIF
|
| * check to see if ultimate analysis + ash = 100%
| |   ttlult =oxygen +sulfur +nitrogen +hydrogen +carbon
| |   +-+IF ttlult<>0
| |   |   ctlult =STR(ttlult+ash,7,2)
| |   |   +-+IF ctlult<>" 100.00"
| |   |   |   @ 12,68 SAY "not = 100%"
| |   |   +-+ELSE
| |   |   |   @ 12,68 SAY "
| |   |   +-+ENDIF
| |   +-+ENDIF
|
| * if done with entries, make sure proximate and ultimate equal 100%
| |   @ 22,0 CLEAR
| |   +-+IF q>100
| |   |   +-+IF ctlprox<>" 100.00"
| |   |   |   @ 22,5 SAY "Proximate analysis (volatiles, fixed ";
```

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750-795

```
| | | | |      +"carbon, ash) must total 100%"  
| | | | |      q=5  
| | | | +-ENDIF  
| | | | +-IF ctltult<>" 100.00"  
| | | | |      @ 23,5 SAY "Ultimate analysis + ash must total 100%"  
| | | | |      q=5  
| | | | +-ENDIF  
| | | | +-IF q=5  
| | | | |      @ 24,5 SAY "Press any key to continue..."  
| | | | +-DO WHILE INKEY()=0  
| | | | +-ENDDO  
| | | | +-ENDIF  
| | | +-ENDIF  
  
* if done with entries (q>100), ask to accept, change again, or quit  
| | +-IF q>100  
| | | @ 22,0 CLEAR  
| | | @ 22,5 SAY "Accept and store / Change values " ;  
| | | +CHR(174) +" " +CHR(175)  
| | | ans=""  
| | | +-DO WHILE AT(ans,"AC")=0  
| | | | ans=""  
| | | | @ 22,41 GET ans PICTURE "!"  
| | | | READ  
| | | | +-ENDDO  
  
* if operator wants to change again, set q to start at beginning  
| | | +-IF ans="C"  
| | | | q=5  
| | | +-ENDIF  
  
* end of checking whether done  
| | +-ENDIF  
  
* end of loop for entering coal field information  
| | +-ENDDO  
  
* end of if statement for editing  
| +-ENDIF  
  
* end of do-while for reviewing/editing/adding entries  
+-ENDDO  
  
CLOSE DATABASES  
RETURN
```

01-11-89 15:00:00 COALPRT.PRG  
Wed 01-11-89 15:18:52

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of 5  
1-50

```
*****
* COALPRT.PRG -- Last update 10/25/88
* Copyright (C) 1988 -- John A. Kinast
* All Rights Reserved
* written expressly for CERL
*****
* printout of coal field information
*****
*
* check to see if any records present
+--IF RECCOUNT()=0
| @ 22,0 CLEAR
| @ 22,10 SAY "At least one field must be in file to select print option."
| ans=" "
| @ 23,10 SAY "Press any key to continue..." GET ans
| READ
| ans=" "
| RETURN
+--ENDIF

* if running stand-alone, values won't be defined
+--IF TYPE("topmgn")="U"
| topmgn=0
+--ENDIF
+--IF TYPE("btmmgn")="U"
| btmmgn=58
+--ENDIF
+--IF TYPE("lftmgn")="U"
| lftmgn=0
+--ENDIF

* store current record being display so it isn't lost
rc=RECCNO()

* set up variables
stlst=''
pg=0

* find out from user how many fields to print
@ 22,0 CLEAR
@ 22,4 SAY "Print field that is Displayed, fields for one State, ";
+"All fields, or"
@ 23,4 SAY "Quit (cancel print) -- Option ( D / S / A / Q )      ";
+CHR(174) +" " +CHR(175)
ans=" "

+--DO WHILE AT(ans,"DSAQ")=0
| ans=" "
| @ 23,58 GET ans PICTURE "!"
| READ
```

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Wed 01-11-89 15:18:52

Pg 2  
of 5  
51-100

```
+--ENDDO

    * if quit is selected, just return without changing a thing
+--IF ans="Q"
|   ans=""
|   RETURN
+--ENDIF

    * ask questions to see what state to print
+--IF ans="S"
|   @ 22.0 CLEAR TO 24.79
|   @ 22.5 SAY "Enter state for coal information printout:"

    * get verified state entry
    st=SPACE(20)
    ok=.f.
+--DO WHILE .NOT. ok
|   st=SPACE(20)
|   st$=""
|   @ 22.48 GET st PICTURE "XXXXXXXXXXXXXXXXXXXX"
|   READ
|   rdky=READKEY()
|   +--IF rdky=12
|       |   RETURN
|   +--ENDIF
|   +--IF LEN(TRIM(st))>0
|       |   DO chkstate
|   +--ENDIF
+--ENDDO
mst=TRIM(st)
+--ENDIF

    * if single state wanted, go to first entry
+--IF ans="S"
|   SEEK mst
+--ENDIF

    * if all fields to be printed, go to top of file
+--IF ans="A"
|   GO top
+--ENDIF

    * set escape off to be able to trap it with inkey statement
SET ESCAPE OFF
abt=.f.

    * print message about printing information
@ 22.0 CLEAR
@ 23.10 SAY "Printing in progress. Press <ESC> to quit early..."
```

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Pg 3  
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101-150

```
* set up printer
SET MARGIN TO lftmgn
SET DEVICE TO PRINT
prevst="\\"

* loop for printing coal information
---DO WHILE .NOT. EOF() .AND. .NOT. abt
|
| * first check for keys pressed
|   c=1
| * loop until no more keys present
|   ---DO WHILE c<>0
|     c=INKEY()
|   * if key pressed was escape, then set flag to abort early
|     ---IF c=27
|       |     abt=.t.
|     ---ENDIF
|   ---ENDDO
|
| * if abort flag set, jump to bottom of loop
|   ---IF abt
|     |     LOOP
|   ---ENDIF
|
| * advance to next page for a new state
|   ---IF prevst<>state
|     st=state
|     DO chkstate
|       hdg="Coal field information printout for: " +state + " - ";
|       +st!st
|       pg=pg+1
|       @ topmgn,0 SAY hdg
|       @ PROW(),60 SAY "Page " +LTRIM(STR(pg))
|       prevst=state
|   ---ENDIF
|
| * if at the bottom of the page, skip to the next one
|   ---IF pg=0 .OR. PROW()+14>btmmgn
|     pg=pg+1
|     @ topmgn,0 SAY hdg
|     @ PROW(),60 SAY "Page " +LTRIM(STR(pg))
|   ---ENDIF
|
| * print the entry
|   @ PROW()+2,0 SAY "Location: " +location
|   @ PROW(),56 SAY "Last changed: " +DTOC(last_chg)
|   @ PROW(),1,0 SAY "County: "+county
|   @ PROW(),42 SAY "Lat:"
|   cl=STR(latitude,7)
|   @ PROW(),47 SAY SUBSTR(cl,1,3) +"d " +SUBSTR(cl,4,2) +"m " ;
```

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151-200

```
| +SUBSTR(c1,6,2) +"s"
| @ PROW(),62 SAY "Long:"
| c1=STR(longitude,7)
| @ PROW(),68 SAY SUBSTR(c1,1,3) +"d " +SUBSTR(c1,4,2) +"m " ;
| +SUBSTR( c1,6,2) +"s"
| @ PROW()+1,2 SAY "Proximate Analysis"
| @ PROW(),49 SAY "Moisture:"
| @ PROW(),59 SAY moisture
| @ PROW(),66 SAY "% (as delivered)"
| @ PROW(),+1,5 SAY "Fixed Carbon:"
| @ PROW(),19 SAY fixed_crbn
| @ PROW(),26 SAY "% Volatile:"
| @ PROW(),41 SAY volatile
| @ PROW(),48 SAY "% Ash:"
| @ PROW(),58 SAY ash
| @ PROW(),65 SAY "% --- (dry basis)"
| @ PROW(),+1,2 SAY "Ultimate Analysis -- (dry basis)"
| @ PROW(),+1,5 SAY "Carbon:"
| @ PROW(),13 SAY carbon
| @ PROW(),19 SAY "%"
| @ PROW(),26 SAY "Hydrogen:"
| @ PROW(),36 SAY hydrogen
| @ PROW(),42 SAY "%"
| @ PROW(),47 SAY "Nitrogen:"
| @ PROW(),57 SAY nitrogen
| @ PROW(),63 SAY "%"
| @ PROW(),+1,5 SAY "Sulfur:"
| @ PROW(),13 SAY sulfur
| @ PROW(),19 SAY "%"
| @ PROW(),28 SAY "Oxygen:"
| @ PROW(),36 SAY oxygen
| @ PROW(),42 SAY "%"
| @ PROW(),+1,2 SAY "Miscellaneous"
| @ PROW(),+1,5 SAY "Gross Calorific Value (dry):"
| @ PROW(),34 SAY HHV_dry
| @ PROW(),41 SAY "Btu/lb"
| @ PROW(),56 SAY "Rank:"
| @ PROW(),62 SAY RANK
| @ PROW(),+1,5 SAY "Hemispherical Temperature:"
| @ PROW(),39 SAY aft_s
| @ PROW(),45 SAY "F (H=1/2W, reducing)"
| @ PROW(),+1,5 SAY "Hardgrove Grindability Index:"
| @ PROW(),35 SAY HRDGRV_GRD
| @ PROW(),44 SAY "Free Swelling Index:"
| @ PROW(),65 SAY FREE_SWELL
| @ PROW(),+1,5 SAY "Code Number:"
| @ PROW(),18 SAY CODE_NO
| @ PROW(),+1,5 SAY "Note:"
| @ PROW(),11 SAY cmmnt
```

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Wed 01-11-89 15:18:52

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of 5  
201-230

```
| * skip to next entry
| SKIP
|
| * if only one state wanted, check to see if a new state has shown up
| +-IF ans="S"
| * if skip has moved to a new state, go to bottom, then one past for
| * hitting the EOF (end-of-file)
| | +-IF mst<>state
| | | GO BOTTOM
| | | SKIP
| | +-ENDIF
| +-ENDIF
|
| * if only the displayed field is wanted, skip to bottom
| +-IF ans="D"
| | GO BOTTOM
| | SKIP
| +-ENDIF
|
| +-ENDDO
|
* go back to original record being displayed
GOTO rc

* move back to top of page, and reset values back to normal
EJECT
SET ESCAPE ON
SET DEVICE TO SCREEN
SET MARGIN TO 0
RETURN
```

```
*****
* COALSCR.PRG -- Last update 01/11/89
* Copyright (C) 1988,1989 -- John A. Kinast
* All Rights Reserved
* written expressly for CERL
*****
* screen drawing for coal fields
*****
*
* display long view of coal field
+--IF lv
| CLEAR
| @ 1.0 TO 21.79 double
| @ 5.1 TO 5.78 DOUBLE
| @ 10.1 TO 10.78 DOUBLE
| @ 14.1 TO 14.78 DOUBLE
| @ 8.1 TO 8.7
| @ 8.21 TO 8.78
| @ 2.2 SAY "Coal field location"
| @ 2.54 SAY "Last changed: "
| @ 3.3 SAY "State: "
| @ 3.37 SAY "Location: "
| @ 4.3 SAY "County: "
| @ 4.42 SAY [Lat: ] +CHR(248) +[ ' ']
| @ 4.61 SAY [Long: ] +CHR(248) +[ ' ']
| @ 6.2 SAY "Proximate Analysis"
| @ 7.5 SAY "Moisture:      % (as delivered)"
| @ 8.8 SAY "( dry basis )"
| @ 9.5 SAY "Fixed Carbon: "
| @ 9.26 SAY "% Volatile: "
| @ 9.48 SAY "% Ash: "
| @ 9.65 SAY "%"
| @ 11.2 SAY "Ultimate Analysis -- (dry basis)"
| @ 12.5 SAY "Carbon:      %"
| @ 12.26 SAY "Hydrogen:      %"
| @ 12.47 SAY "Nitrogen:      %"
| @ 13.5 SAY "Sulfur:      %"
| @ 13.28 SAY "Oxygen:      %"
| @ 15.2 SAY "Miscellaneous"
| @ 16.5 SAY "Gross Calorific Value (dry):      Btu/lb"
| @ 16.56 SAY "Rank: "
| @ 17.5 SAY "Hemispherical Temperature:      " ;
| +CHR(248) +"F (H=" +CHR(171) +"W, reducing)"
| @ 18.5 SAY "Hardgrove Grindability Index: "
| @ 18.44 SAY "Free Swelling Index: "
| @ 19.5 SAY "Code Number: "
| @ 20.5 SAY "Note: "
|
| * display values only if present
```

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Wed 01-11-89 15:19:27

Pg 2  
of 3  
51-100

```
| ---IF .NOT. EOF()
|   | @ 2,68 SAY last_chg
|   | st=state
|   | stlst=""
|   | DO idstate
|   |   st=st+" - "+stlst
|   |   @ 3,10 GET st
|   |   @ 3,47 GET location
|   |   @ 4,11 GET county
|   |   clat=STR(latitude,7)
|   |   lat_1=SUBSTR(clat,1,3)
|   |   lat_2=SUBSTR(clat,4,2)
|   |   lat_3=SUBSTR(clat,6,2)
|   |   @ 4,47 GET lat_1
|   |   @ 4,51 GET lat_2
|   |   @ 4,54 GET lat_3
|   |   clong=STR(longitude,7)
|   |   clo_1=SUBSTR(clong,1,3)
|   |   clo_2=SUBSTR(clong,4,2)
|   |   clo_3=SUBSTR(clong,6,2)
|   |   @ 4,67 GET clo_1
|   |   @ 4,71 GET clo_2
|   |   @ 4,74 GET clo_3
|   |   @ 7,15 GET moisture
|   |   @ 9,19 GET fixed_crbn
|   |   @ 9,41 GET volatile
|   |   @ 9,58 GET ash
|   |   @ 12,13 GET carbon
|   |   @ 12,36 GET hydrogen
|   |   @ 12,57 GET nitrogen
|   |   @ 13,13 GET sulfur
|   |   @ 13,36 GET oxygen
|   |   @ 16,34 GET HHV_dry
|   |   @ 16,62 GET RANK
|   |   @ 17,32 GET aft_s
|   |   @ 18,35 GET HRDCRV_CRD
|   |   @ 18,65 GET FREE_SWELL
|   |   @ 19,18 GET CODE_NO
|   |   @ 20,11 GET cmmnt
|   |   CLEAR GETS
|   |   currec=RECN0()
| ---ELSE
|   |   currec=0
| ---ENDIF
|
| * display short view of coal fields
+--ELSE
|   CLEAR
|   @ 1,0 TO 4,79 double
|   @ 2,3 SAY "Coal Field Information Management Program"
```

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Wed 01-11-89 15:19:27

Pg 3  
of 3  
101-125

```
| @ 3,3 SAY "Condensed View of Coal Fields"  
| @ 2,69 SAY DATE()  
| @ 6,2 SAY "State Rank County Location"  
+--IF .NOT. EOF()  
| currec=RECN0()  
| i=7  
+--DO WHILE .NOT. EOF() .AND. i<20  
| | @ 1,3 GET state  
| | @ 1,10 GET rank  
| | @ 1,18 GET county  
| | @ 1,44 GET location  
| | CLEAR GETS  
| | i=i+1  
| | lstrecc=RECN0()  
| | SKIP  
| +--ENDDO  
| COTO currec  
+--ELSE  
| currec=0  
+--ENDIF  
@ 21,0 TO 21,79 double  
+--ENDIF  
  
RETURN
```

```
*****
* DBENVRN.PRG -- Last update 01/11/89
* Copyright (C) 1988,1989 -- John A. Kinast
* All Rights Reserved
*****
* define database environment for the system
*****
*
PUBLIC fox, clipper, ending

* define ending of index files based on operating environment
ending=""

* fox is .t. if run under FoxBASE+, otherwise .f.
+--IF fox
|   ending=".IDX"
+--ENDIF

* clipper is .t. if run under Clipper, otherwise .f.
+--IF clipper
|
|   * function returns index file ending based on how program has been linked.
|   * returns ".NDX" if ndx.obj was linked to produce dBASE III+
|   *           compatible index files
|   * returns ".NTX" if ndx.obj not linked, which results in standard
|   *           Clipper index files
|   ending=indexext()

|   * readexit function with .t. as parameter sets Clipper to use
|   * up-arrow and down-arrow keys to exit from variable READs
|   c=readexit(.t.)
+--ENDIF

* if nothing was assigned by other two routines, it must be running
* under dBASE III+, meaning ".NDX" (standard index) files used
+--IF LEN(ending)=0
|   ending=".NDX"
+--ENDIF

RETURN
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 15:19:58

Pg 1  
of 3  
1-50

```
*****  
*- IDSTATE.PRG -- Last Update 01/11/89  
*- Copyright (c) 1988,1989 by John A. Kinast  
*- All Rights Reserved  
*- written for CERL  
*****  
*- using st, get state name  
*****  
*  
* convert state entry to upper case, set up length and flag  
st=UPPER(LTRIM(TRIM(st)))  
stlist=""  
---DO CASE  
| CASE st='AL'  
| | stlist='Alabama'  
| CASE st='AK'  
| | stlist='Alaska'  
| CASE st='AR'  
| | stlist='Arkansas'  
| CASE st='AZ'  
| | stlist='Arizona'  
| CASE st='CA'  
| | stlist='California'  
| CASE st='CO'  
| | stlist='Colorado'  
| CASE st='CT'  
| | stlist='Connecticut'  
| CASE st='DC'  
| | stlist='District of Columbia'  
| CASE st='DE'  
| | stlist='Delaware'  
| CASE st='FL'  
| | stlist='Florida'  
| CASE st='GA'  
| | stlist='Georgia'  
| CASE st='HI'  
| | stlist='Hawaii'  
| CASE st='ID'  
| | stlist='Idaho'  
| CASE st='IL'  
| | stlist='Illinois'  
| CASE st='IN'  
| | stlist='Indiana'  
| CASE st='IA'  
| | stlist='Iowa'  
| CASE st='KS'  
| | stlist='Kansas'  
| CASE st='KY'  
| | stlist='Kentucky'
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 15:19:58

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of 3  
51-100

```
| CASE st='LA'  
|     stlist='Louisiana'  
| CASE st='ME'  
|     stlist='Maine'  
| CASE st='MD'  
|     stlist='Maryland'  
| CASE st='MA'  
|     stlist='Massachusetts'  
| CASE st='MI'  
|     stlist='Michigan'  
| CASE st='MN'  
|     stlist='Minnesota'  
| CASE st='MS'  
|     stlist='Mississippi'  
| CASE st='MO'  
|     stlist='Missouri'  
| CASE st='MT'  
|     stlist='Montana'  
| CASE st='NE'  
|     stlist='Nebraska'  
| CASE st='NV'  
|     stlist='Nevada'  
| CASE st='NH'  
|     stlist='New Hampshire'  
| CASE st='NJ'  
|     stlist='New Jersey'  
| CASE st='NM'  
|     stlist='New Mexico'  
| CASE st='NY'  
|     stlist='New York'  
| CASE st='NC'  
|     stlist='North Carolina'  
| CASE st='ND'  
|     stlist='North Dakota'  
| CASE st='OH'  
|     stlist='Ohio'  
| CASE st='OK'  
|     stlist='Oklahoma'  
| CASE st='OR'  
|     stlist='Oregon'  
| CASE st='PA'  
|     stlist='Pennsylvania'  
| CASE st='RI'  
|     stlist='Rhode Island'  
| CASE st='SC'  
|     stlist='South Carolina'  
| CASE st='SD'  
|     stlist='South Dakota'  
| CASE st='TX'  
|     stlist='Texas'
```

01-11-89 15:00:00 IDSTATE.PRG  
Wed 01-11-89 15:19:58

Pg 3  
of 3  
101-120

```
| CASE st='TN'  
|   stlist='Tennessee'  
| CASE st='US'  
|   stlist='United States'  
| CASE st='UT'  
|   stlist='Utah'  
| CASE st='VT'  
|   stlist='Vermont'  
| CASE st='VA'  
|   stlist='Virginia'  
| CASE st='WA'  
|   stlist='Washington'  
| CASE st='WV'  
|   stlist='West Virginia'  
| CASE st='WI'  
|   stlist='Wisconsin'  
| CASE st='WY'  
|   stlist='Wyoming'  
+--ENDCASE  
      RETURN
```

01-11-89 15:00:00 SETCOLOR.PRG  
Wed 01-11-89 15:20:18

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of 1  
1-23

```
*****
*- SETCOLOR.PRG -- Last Update 01/11/89
*- Copyright (c) 1988,1989 by John A. Kinast
*- All Rights Reserved
*****
*- routine to set colors based on database entry
*****
*
* reset colors to desired values if necessary
+--IF FILE("colors.dbf")
| USE colors
| +--IF RECCOUNT()>0
| | c_lf=TRIM(lofg)
| | c_lb=TRIM(lobg)
| | c_hf=TRIM(hifg)
| | c_hb=TRIM(hibg)
| | c_bd=TRIM(brdr)
| | SET COLOR TO &c_lf./&c_lb., &c_hf./&c_hb., &c_bd
| +--ENDIF
+--ENDIF
RELEASE ALL LIKE c_??
CLEAR
RETURN
```

## **Appendix B: United States Geological Survey Coal Properties Data Listing**

Coal Field Information Printout for AK - Alaska .....	B-5
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<u>Table Title</u>	<u>Description</u>
Location	Either the name of the mine or a description of the type of mine.
County	County in which the coal field is located.
Code Number	A unique number given to the entry for later identification. (In the case of the original data, the United States Geological Survey number assigned to the entry.)
Latitude	The north latitude of the coal field in the format DDDMMSS, where DDD is in degrees, MM is in minutes, SS is in seconds.
Longitude	The west longitude of the coal field in the format DDDMMSS, where DDD is in degrees, MM is in minutes, SS is in seconds.
Rank	The rank, or type, of the coal: B = bituminous SB = sub-bituminous L = lignite A = anthracite SA = semi-anthracite
Htg Val	Heating value of the dry coal in Btu/lb.
Last Chg	Date the entry was last changed.
Moisture	Moisture fraction of the coal as delivered, in percent, from the proximate analysis.
Volatile	Fraction of volatiles in the coal on a dry basis, in percent, from the proximate analysis.
Fxd Crbn	Fraction of fixed carbon in the coal on a dry basis, in percent, from the proximate analysis.
Ash	Fraction of ash in the coal on a dry basis, in percent, from the proximate analysis.
Carbon	Fraction of carbon in the coal on a dry basis, in percent, from the ultimate analysis.
Hydrogen	Fraction of hydrogen in the coal on a dry basis, in percent, from the ultimate analysis.
Sulfur	Fraction of sulfur in the coal on a dry basis, in percent, from the ultimate analysis.
Oxygen	Fraction of oxygen in the coal on a dry basis, in percent, from the ultimate analysis.
Nitrogen	Fraction of nitrogen in the coal on a dry basis, in percent, from the ultimate analysis.
Hardgrove	Hardgrove grindability index of the coal.
Free Swell	Free swelling index of the coal.
Hemi Temp	Hemispherical temperature of the coal, in °F; defined as the softening temperature at which $H = 1/2 W$

**Coal Field Information Printout for  
AK - Alaska**

## Coal Field Information Printout for: AK - Alaska

Location Moisture	Volatiles	Fxd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val Hardgrove	Frse Swell	Last Chg Hemi Temp
4.10	34.80	47.20	18.00	62.90	4.60	0.30	D177647	554603	1603845	B	10810	0.0	09/01/88 2804
2.30	32.90	37.60	29.50	53.60	4.10	1.10	D177644	561557	1584203	B	9340	1.0	09/01/88 2687
11.00	43.20	30.40	26.40	51.00	4.50	0.40	D169228	594500	1510000	SB	8870	0.0	09/01/88 0
18.30	51.40	40.80	KENAI PENINSULA BOROUGH	D178773	5.20	0.40	D178628	600024	1513722	SB	10580	0.0	09/01/88 2354
23.40	54.10	39.60	KENAI PENINSULA BOROUGH	D178628	5.20	0.40	D178629	600153	1514015	SB	10220	0.0	09/01/88 1913
26.50	41.40	33.30	KENAI PENINSULA BOROUGH	D178629	4.30	0.30	D178775	600339	1513914	SB	8600	0.0	09/01/88 2138
21.60	50.10	39.80	KENAI PENINSULA BOROUGH	D178774	5.10	0.40	D178775	600403	1513846	SB	10600	0.0	09/01/88 2075
20.70	46.00	37.20	KENAI PENINSULA BOROUGH	D178777	4.80	0.40	D178777	600417	1513828	SB	9810	0.0	09/01/88 2228
20.20	43.00	27.20	KENAI PENINSULA BOROUGH	D178778	4.10	0.40	D178778	601211	1512603	SB	8260	0.0	09/01/88 2183
25.10	40.10	30.00	KENAI PENINSULA BOROUGH	D178778	4.20	0.40	D178633	601229	1512534	SB	8240	0.0	09/01/88 2120
21.10	46.50	44.60	KENAI PENINSULA BOROUGH	D178633	5.00	0.10	D178633	611100	1513530	SB	10720	0.0	09/01/88 2228
19.90	44.20	38.70	KENAI PENINSULA BOROUGH	D178631	4.70	0.10	D178631	611710	1514447	SB	9860	0.0	09/01/88 2417
30.80	56.20	37.90	MATANUSKA-SUSITNA	D179395	5.70	0.10	D179395	622348	1512420	SB	11490	0.0	09/01/88 2282
18.00	44.10	42.10	NO BOROUGH	D177642	60.90	4.60	NO BOROUGH	633917	1454638	SB	10340	0.0	09/01/88 2300
23.80	47.40	36.60	NO BOROUGH	D186043	16.00	57.20	4.50	635410	1485616	SB	9850	0.0	09/01/88 2408
24.00	46.80	39.90	NO BOROUGH	D179396	13.30	62.60	5.00	635456	1483902	SB	11000	0.0	09/01/88 2354

## Coal Field Information Printout for: AK - Alaska

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
USIBELLI COAL MINE 19.40	45.40	28.70	25.90	52.50	4.30	0.40	15.90	1.00	SB	9140	09/01/88 2282
USIBELLI COAL MINE 24.00	47.30	43.90	8.80	64.50	4.90	0.30	20.40	1.10	SB	11130	09/01/88 0
USIBELLI COAL MINE 29.70	47.90	40.40	11.70	61.10	4.80	0.30	21.20	0.90	SB	10490	09/01/88 2273
USIBELLI COAL MINE 23.40	49.30	41.40	9.30	63.00	5.10	0.30	21.40	0.90	SB	10760	09/01/88 2183
USIBELLI COAL MINE 28.50	50.30	39.40	10.30	61.80	4.70	1.00	21.20	1.00	SB	9600	09/01/88 2111
USIBELLI COAL MINE 12.80	14.70	55.50	29.80	58.00	4.40	0.10	23.10	0.70	SB	10600	09/01/88 2417
USIBELLI COAL MINE 16.10	11.20	82.10	6.70	57.00	2.70	1.50	8.10	0.90	SB	9550	09/01/88 2732
USIBELLI COAL MINE 6.70	40.80	55.70	3.50	84.10	3.40	0.60	4.00	1.20	SB	13870	09/01/88 2597
USIBELLI COAL MINE 6.10	37.40	55.10	7.50	75.40	5.00	0.20	10.00	1.80	SB	13270	09/01/88 2354
USIBELLI COAL MINE 12.80	36.40	55.20	8.40	69.30	4.30	0.20	15.70	2.10	SB	11650	09/01/88 2300
USIBELLI COAL MINE 18.90	34.60	59.90	5.50	72.50	4.10	0.50	15.90	1.50	SB	12070	09/01/88 2192
USIBELLI COAL MINE 5.20	34.50	49.80	15.70	69.30	4.60	0.30	9.00	1.10	SB	12040	09/01/88 2426
USIBELLI COAL MINE 6.50	37.40	56.40	6.20	76.80	5.10	0.30	10.00	1.60	SB	13500	09/01/88 2192
USIBELLI COAL MINE 20.90	36.70	58.50	4.80	71.10	4.10.	0.30	18.20	1.50	SB	11770	09/01/88 2354
USIBELLI COAL MINE 8.70	35.60	60.60	3.80	78.10	4.70	0.30	11.50	1.60	SB	13450	09/01/88 2300

## Coal Field Information Printout for: AK - Alaska

Location	Moisture	Volatiles	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
22.60	36.80	59.50	3.70	71.90	NORTH SLOPE BOROUGH	D184600	4.10	0.30	692308	1611600	B	11890	09/01/88	2183
25.50	42.30	51.50	6.20	68.50	NORTH SLOPE BOROUGH	D184599	4.00	0.30	692310	1612320	B	11180	09/01/88	2282
9.70	37.20	59.60	3.20	74.30	NO BOROUGH	D185050	4.50	0.20	692535	1611340	B	12620	09/01/88	0
14.10	36.00	61.20	2.80	73.50	NORTH SLOPE BOROUGH	D184616	4.30	0.30	692617	1612046	B	12270	09/01/88	2129
13.90	35.10	61.30	3.60	73.90	NORTH SLOPE BOROUGH	D184601	4.40	0.30	692648	1604512	B	12370	09/01/88	2246
5.00	26.30	34.50	39.20	48.50	NORTH SLOPE BOROUGH	D184615	3.60	0.40	692708	1612220	B	8580	09/01/88	2912
11.90	34.10	63.30	2.60	76.90	NORTH SLOPE BOROUGH	D184613	4.60	0.30	692758	1612228	B	13080	09/01/88	2192
8.40	37.40	57.80	4.80	77.50	NORTH SLOPE BOROUGH	D184614	4.90	0.30	692832	1612220	B	13480	09/01/88	2408
5.70	42.50	40.90	16.60	53.80	NORTH SLOPE BOROUGH	D184611	4.40	0.20	693143	1612020	B	8900	09/01/88	2561

**Coal Field Information Printout for**

**AL - Alabama**

## Coal Field Information Printout for: AL - Alabama

Location Moisture	Volatile Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
					Oxygen	Nitrogen	Hardgrove	Free Swell		Hemi Temp	
43.60	37.80	24.10	38.10	41.90	3.60	4.10	315919	880716	L	6860	09/01/88
							11.40	0.90		0.0	2048
50.10	37.40	27.90	34.70	45.20	3.30	3.20	320301	881243	L	7600	09/01/88
							12.60	1.00		0.0	2138
50.70	37.50	37.50	25.00	52.50	3.60	2.80	320353	873629	L	8860	09/01/88
							15.10	1.00		0.0	2084
49.60	41.80	28.40	29.80	47.80	3.50	6.00	320419	881336	L	8270	09/01/88
							12.10	0.80		0.0	2066
52.50	41.30	47.50	11.20	63.10	4.10	4.60	320524	873734	L	10460	09/01/88
							15.90	1.10		0.0	2120
52.40	40.50	41.20	18.30	57.10	3.90	4.00	320716	874125	L	9560	09/01/88
							15.60	1.10		0.0	2084
48.00	35.70	30.60	33.70	41.10	3.20	5.60	320742	881856	L	6880	09/01/88
							15.60	0.80		0.0	2102
36.50	42.30	31.70	26.00	47.60	3.50	5.20	320855	881608	L	7810	09/01/88
							16.60	1.10		0.0	2084
49.50	40.20	37.20	22.60	52.30	3.80	5.10	320926	874513	L	8910	09/01/88
							15.20	1.00		0.0	2030
49.60	44.80	43.10	12.10	59.90	4.30	4.20	320959	875218	L	10320	09/01/88
							18.50	1.00		0.0	1976
46.10	42.10	34.90	23.00	54.10	4.00	3.90	322156	881704	L	9200	09/01/88
							14.10	0.90		0.0	2030
1.30	36.90	59.70	3.40	82.00	5.40	1.50	331608	872343	B	14720	09/01/88
							6.10	1.60		7.0	2201
IN SITU GAS DDH											
0.60	26.40	68.30	5.30	82.20	5.10	2.90	3.00	1.50		14760	09/01/88
										9.0	2111
0.90	25.20	69.40	5.40	82.90	5.00	1.10	333259	870538	B	14680	09/01/88
							4.20	1.40		9.0	2912
1.70	30.50	45.10	24.30	61.40	4.30	1.90	333630	873630	B	11060	09/01/88
							6.70	1.40		4.0	2606
1.10	30.00	62.70	7.30	79.60	5.10	1.40	333802	865020	B	14260	09/01/88
							5.00	1.60		8.5	2657

## Coal Field Information Printout for: AL - Alabama

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
1.20	34.60	56.60	8.80	77.70	5.20	2.10	4.80	1.40	9.0	09/01/88 2399
1.40	31.00	50.80	18.20	68.10	4.80	1.60	6.00	1.30	8.5	09/01/88 2804
0.90	30.30	57.00	12.70	74.20	4.90	3.10	3.80	1.30	9.0	09/01/88 2309
5.30	30.50	58.30	11.20	70.80	4.20	1.00	11.70	1.10	1.0	09/01/88 2183
1.40	28.70	57.70	13.60	73.10	4.80	1.80	5.30	1.40	8.5	09/01/88 2804
1.70	33.70	52.20	14.10	72.20	5.10	1.80	5.70	1.10	9.0	09/01/88 2678
2.50	30.10	53.90	16.00	70.00	4.80	0.90	7.10	1.20	7.5	09/01/88 2912
1.50	37.60	56.50	5.90	78.30	5.30	2.00	7.00	1.50	8.5	09/01/88 2273
1.90	33.60	52.70	13.70	71.40	4.90	1.50	6.90	1.60	4.5	09/01/88 2804
1.80	32.30	48.40	19.30	65.90	4.70	1.30	7.60	1.20	4.5	09/01/88 2912
1.70	34.90	57.40	7.70	77.40	5.50	1.60	6.90	0.90	7.5	09/01/88 2534
1.80	27.30	51.90	20.80	65.00	4.50	1.80	7.10	0.80	3.0	09/01/88 2912
2.40	31.80	52.10	16.10	68.90	4.70	0.90	7.80	1.60	1.5	09/01/88 2912
2.30	26.90	58.10	15.90	69.50	4.70	0.60	9.30	0.90	2.0	09/01/88 2912
1.80	33.00	58.10	8.90	75.20	5.20	2.40	7.00	1.30	6.0	09/01/88 2183
1.90	37.60	52.50	9.90	74.20	5.20	1.50	334714	871022	5.0	09/01/88 2696

## Coal Field Information Printout for: AL - Alabama

Location Moisture	Volatile Moisture	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
										Hardgrove	Free Swell	Hemi Temp
2.80	31.20	55.80	13.00	72.30	4.80	0.40	W191290	334720	871022	B	12750	09/01/88
1.70	33.30	56.20	10.50	72.70	5.20	3.80	W188919	334732	870146	B	13150	09/01/88
1.70	33.40	57.10	9.50	73.50	5.30	4.10	W188923	334733	870144	B	13340	09/01/88
2.40	29.30	57.40	13.30	71.50	4.70	0.50	W188920	334757	871110	B	12600	09/01/88
2.40	40.40	51.90	7.70	75.10	5.50	2.00	W191071	335025	873540	B	13620	09/01/88
PATION MINE	36.90	58.80	4.30	79.90	5.10	0.70	W193938	335835	870455	B	14310	09/01/88
2.20	21.60	74.60	3.80	85.90	4.30	1.30	W215453	342804	853252	B	14940	09/01/88
1.50	22.10	72.50	5.40	83.20	4.40	0.80	W199996	342848	853208	B	14750	09/01/88
1.70	19.60	71.00	9.40	79.90	4.40	0.90	W199995	342940	853237	B	13960	09/01/88
1.20	19.70	78.30	2.00	87.60	4.50	0.60	W199992	343204	853241	B	15340	09/01/88
7.90	23.70	69.00	DE KALB	7.30	74.40	3.50	W199993	343234	853249	B	12160	09/01/88
1.30	20.50	75.90	3.60	86.70	4.30	0.90	W199994	343238	853203	B	15050	09/01/88
2.50	21.90	62.30	DE KALB	15.80	73.20	4.00	W215452	343845	853328	B	12870	09/01/88
1.80	23.80	67.50	JACKSON	8.70	80.70	4.60	W212568	345326	853621	B	14080	09/01/88
								3.90	1.40		7.5	2750

**Coal Field Information Printout for**

**AR - Arkansas**

## Coal Field Information Printout for: AR - Arkansas

Location Moisture	Volatiles	Frd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
										Free Swell	Hemi Temp		
40.80	48.30	38.40	CLARK	62.90	4.50	0.50	D176395	335601	925845	L	10570	09/01/88	
42.00	49.60	43.80	CLARK	66.10	5.10	1.70	D176394	340030	925615	L	11260	09/01/88	
39.10	42.20	26.40	HOT SPRINGS	48.20	4.40	1.10	D176393	342012	924652	L	8640	09/01/88	
STATE ROAD 35	53.30	27.90	SALINE	54.00	4.30	0.50	D176398	342843	923220	L	9120	09/01/88	
55.00	47.50	34.70	SALINE	55.30	4.20	1.30	D176396	343402	922330	L	8960	09/01/88	
35.50	40.00	21.90	PULASKI	41.30	3.80	0.80	D176391	343940	921616	L	7130	09/01/88	
4.40	22.60	70.00	SEBASTIAN	7.40	82.20	4.50	SCOTT	3175925	345458	B	14320	09/01/88	
9.70	27.10	68.50	SEBASTIAN	4.40	77.90	3.50	D175924	350002	942100	B	12770	09/01/88	
2.90	21.70	72.20	SEBASTIAN	6.10	84.50	4.30	SCOTT	3175926	350103	914201	B	14580	09/01/88
2.30	21.10	70.50	SEBASTIAN	8.40	82.00	4.20	SCOTT	3175927	350103	941201	B	14310	09/01/88
3.10	19.30	74.60	SEBASTIAN	6.10	84.80	4.40	D175922	350514	941635	B	14670	09/01/88	
7.40	19.40	74.60	SEBASTIAN	6.00	80.80	3.90	D179988	351008	941937	B	9.0	2084	
4.50	22.60	75.00	SEBASTIAN	2.40	86.60	4.30	D176061	351118	941708	B	13640	09/01/88	
3.10	17.30	81.00	FRANKLIN	1.70	87.80	4.50	D179994	351700	935930	B	15210	09/01/88	
4.30	18.30	78.80	LOGAN	2.50	87.20	4.30	D175928	351845	934305	B	2.0	2192	
3.50	16.80	78.70	LOGAN	4.50	85.30	4.30	D179995	351918	934353	B	14860	09/01/88	

## Coal Field Information Printout for: AR - Arkansas

Location	Moisture	Volatiles	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
1.30	20.70	72.10	7.20	82.80	FRANKLIN	D175929	3.50	0.60	352010	935556	B	14460	09/01/88	2246
3.60	15.00	74.00	11.00	80.30	LOGAN	D176060	3.50	1.30	352020	933122	B	13640	09/01/88	2129
GARLAND STRIP					FRANKLIN	D179993			352035	935558	B	14460	09/01/88	
1.80	18.90	74.20	6.90	82.50	FRANKLIN	D175921	3.50	1.20	352522	935701	B	14350	09/01/88	2534
3.50	16.00	76.70	7.30	82.70	JOHNSON	D175920	4.10	1.30	352705	933510	B	15070	09/01/88	2417
3.30	14.40	82.50	3.10	88.90	JOHNSON	D179991			352742	912240	B	14220	09/01/88	
2.00	11.20	80.90	7.90	83.20	FRANKLIN	D179992	3.70	1.10	353010	932143	B	14000	09/01/88	2192
TITAN STRIP					JOHNSON	D179991			353018	933350	B	0.5	0.5	2192
ENERGY DEV CO STRIP					JOHNSON	D175919			353115	934545	B	15180	09/01/88	2471
1.70	12.60	78.00	9.40	81.00	FRANKLIN	D179989	3.60	4.40	3.10	1.50		9.0	0.5	2480
2.70	19.30	77.70	3.00	88.10	FRANKLIN	D175918	4.40	0.80	1.70	2.00		4.0	0.5	2353
B AND D CO STRIP					JOHNSON	D179989			353310	932915	B	12910	09/01/88	
1.30	16.30	67.60	16.10	74.10	FRANKLIN	D179989	3.80	1.40	3.10	1.50		4.0	0.5	2912
PEABODY STRIP					JOHNSON	D179990			353143	944043	B	14940	09/01/88	
1.50	18.30	79.30	4.40	86.80	FRANKLIN	D179990	4.20	0.60	2.30	1.70		7.0	0.5	2120
JACK LEE MINE					JOHNSON	D175918			353310	933330	B	14370	09/01/88	
9.60	15.70	77.20	7.10	83.90	JOHNSON	D176059			353330	933607	B	14990	09/01/88	2246
3.40	18.30	78.40	3.30	86.90	JOHNSON	D1f ;850	4.30	0.60	3.00	1.90		5.0	0.5	2138
HOLE NO 31					POINSETT	D186849			353450	904210	L	7400	09/01/88	
34.70	40.10	20.40	39.50	41.80	POINSETT	D186853	4.00	0.50	13.60	0.60		0.0	0.0	2408
HOLE NO 24					POINSETT	D1f ;850			353525	904200	L	7570	09/01/88	
43.70	38.70	27.70	33.60	44.20	POINSETT	D186853	3.80	0.90	16.60	0.90		0.0	0.0	2408
HOLE NO 27					POINSETT	D186853			353540	903945	L	9250	09/01/88	
44.20	46.40	32.30	21.30	52.80	POINSETT	D186853	4.50	5.40	15.30	0.70		0.0	0.0	2039
HOLE NO 68					CRAIGHEAD	D186855			354930	904630	L	7660	09/01/88	
40.10	33.60	32.20	34.20	45.90	CRAIGHEAD	D186855	3.40	1.70	14.10	0.70		0.0	0.0	2300

**Coal Field Information Printout for**

**AZ - Arizona**

## Coal Field Information Printout for: AZ - Arizona

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
									Nitrogen	Hardgrove				
								Oxygen		Free Swell	Hemi Temp			
BLACK MESA STRIP MINE	51.00	46.00	3.00	NAVAJO	D164637	5.30	0.40	362230	1102230	SB	13170	09/01/88	-	
10.40	42.60	48.50	8.90	NAVAJO	D179814	5.20	0.40	15.00	1.20	0.0	0.0	0	-	
10.80	42.60	48.50	8.90	NAVAJO	D176231	5.30	0.30	362831	1102445	SB	12380	09/01/88	-	
10.20	45.90	48.90	5.20	NAVAJO	D179816	5.20	0.40	14.80	1.20	0.5	0.5	2174	-	
10.80	42.60	48.50	8.90	NAVAJO	D179817	5.20	0.40	362840	1102430	SB	12380	09/01/88	-	
10.80	42.60	48.50	8.90	NAVAJO	D176235	5.20	0.40	14.10	1.10	0.0	0.0	2345	-	
10.80	42.60	48.50	8.90	NAVAJO	D179818	5.20	0.40	362842	1102430	SB	12380	09/01/88	-	
8.60	43.80	46.20	10.00	NAVAJO	D176227	69.10	4.90	0.50	14.10	1.10	0.0	0.0	2345	-
9.30	44.20	50.00	5.80	NAVAJO	D176227	73.00	5.10	0.40	363204	1102420	SB	12380	09/01/88	-
9.30	44.20	50.00	5.80	NAVAJO	D176229	73.00	5.10	0.40	363209	1102506	SB	12750	09/01/88	-
10.60	42.80	47.00	10.20	NAVAJO	D176225	68.80	4.90	0.60	14.20	1.30	0.0	0.0	2156	-
10.80	43.50	49.50	7.00	NAVAJO	D179812	71.60	5.20	0.80	363241	1102437	SB	12590	09/01/88	-
9.30	45.00	45.60	9.40	NAVAJO	D176226	70.00	5.10	0.60	13.70	1.20	0.0	0.0	2291	-
11.70	38.80	48.60	12.60	NAVAJO	D179809	66.90	4.80	0.60	363250	1102456	SB	11730	09/01/88	-
12.10	42.20	49.70	8.10	NAVAJO	D179825	70.30	5.00	0.60	363317	1102408	SB	12230	09/01/88	-
											0.0	0.0	2192	-

**Coal Field Information Printout for  
CO - Colorado**

## Coal Field Information Printout for: CO - Colorado

Location Moisture	Volatile Content	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
1.20	27.30	47.10	25.60	LAS ANIMAS	63.30	4.30	0.90	D180091	370815	1044820	B	11250	09/01/88	
1.40	24.90	47.10	28.00	LAS ANIMAS	60.80	4.20	0.40	D180089	371025	1044520	B	10800	09/01/88	
0.90	17.40	55.20	27.40	LAS ANIMAS	62.90	2.70	0.80	D180092	371100	1044700	B	10260	09/01/88	
3.10	33.00	49.20	17.80	LA PLATA	67.30	4.70	0.70	D180084	371505	1080720	B	12030	09/01/88	
3.40	35.90	54.10	10.00	LA PLATA	73.50	5.10	0.70	D180093	371552	1080820	B	13150	09/01/88	
7.50	40.00	48.00	12.00	HUERFANO	69.50	5.00	0.80	D184634	374237	1045427	B	12300	09/01/88	
7.50	40.50	48.30	11.20	FREMONT	69.20	4.70	1.20	D175952	381850	1050845	B	12060	09/01/88	
6.90	40.50	49.70	9.80	FREMONT	70.90	4.50	0.50	D177496	382020	1051036	B	12180	09/01/88	
6.10	38.00	49.20	12.80	GUNNISON	66.20	5.10	1.40	D177528	385105	1072542	B	0.0	2282	
8.60	38.10	58.50	3.40	GUNNISON	74.70	5.30	0.70	D177524	385123	1072730	B	11880	09/01/88	
6.30	35.80	48.50	14.70	GUNNISON	65.60	4.80	1.00	D177514	385203	1072602	B	0.5	2282	
4.70	35.80	48.60	15.60	GUNNISON	66.20	5.10	0.60	D177511	385236	1072816	B	11640	09/01/88	
4.30	32.30	48.00	19.70	GUNNISON	62.30	4.40	0.50	D177501	385311	1072532	B	12980	09/01/88	
5.80	38.10	57.50	4.40	GUNNISON	74.80	5.50	0.60	D177505	385354	1072716	B	11360	09/01/88	
3.20	38.90	53.60	7.50	GUNNISON	75.40	5.10	0.60	D184647	385540	1072804	B	13570	09/01/88	
4.50	37.70	56.30	6.00	GUNNISON	76.00	5.40	0.50	D184650	385541	1072656	B	13640	09/01/88	
												2.0	2552	

Coal Field Information Printout for: CO - Colorado

Location Moisture	Volatile Fxd Crbn	Ash	County	Code Number	Latitude Longitude	Rank	Htg Val	Last Chg
			Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Fme Swell Hemi Temp
5.30	37.30	55.40	GUNNISON	D184652	385557	1072442	B	13400 09/01/88
				5.20	0.60	10.10	1.60	2.0 2804
CMC MINE		MESA		D180095	390821	1081834	B	10360 09/01/88
5.10	31.40	44.00	24.60	58.80	4.10	1.30	9.90	1.30 1.0 2633
5.50	37.50	50.00	12.50	70.00	4.60	0.60	10.70	1.60 1.0 2561
0.80	22.90	69.50	7.60	82.70	4.70	0.50	2.60	1.90 14620 09/01/88
STATION CREEK		PITKIN		D184637	391118	1072039	B	14620 09/01/88
33.20	43.30	39.20	17.50	55.70	3.90	0.40	21.50	1.00 9.0 2426
4.00	40.90	52.90	6.20	73.40	5.20	1.60	11.70	1.90 0.0 0 2345
HOLE 9-1		ADAMS		D173470	394718	1044145	L	9460 09/01/88
35.00	39.70	39.20	21.10	56.00	4.36	0.50	17.20	0.90 0.0 0 0
HOLE 7-11		ADAMS		D17499	394727	1044050	L	8960 09/01/88
32.90	36.20	38.20	25.60	52.90	4.10	0.60	15.90	0.90 0.0 0 2579
6.90	38.10	53.30	RIO BLANCO	D186088	400103	1084445	B	12590 09/01/88
			8.60	71.90	4.90	0.50	12.60	1.50 0.0 0 2705
EAGLE MINE		WELD		D173488	400245	1045900	SB	12480 09/01/88
22.30	41.10	53.40	5.50	72.20	4.90	0.50	15.40	1.50 0.0 0 0
10.20	38.40	44.20	17.40	64.40	4.40	0.70	11.70	1.40 0.0 0 2804
9.50	34.10	39.50	26.40	56.40	3.80	0.60	11.70	1.10 0.0 0 2309
23.80	32.40	41.00	26.60	55.20	3.90	0.70	12.40	1.20 0.0 0 2714
12.10	38.20	51.90	9.90	70.70	4.70	0.50	12.70	1.50 0.0 0 2696
17.10	37.20	45.10	17.70	62.30	4.20	0.50	14.00	1.30 10710 09/01/88
15.20	35.60	50.10	14.30	65.50	4.40	0.40	13.90	1.50 0.0 0 2417
		MOFFAT		D186083	401328	1084955	B	11290 09/01/88
		MOFFAT		D186091	401504	1075216	B	0.0 2354

## Coal Field Information Printout for: CO - Colorado

Location Moisture	Volatile Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
	Fxd Crbn	Ash					Hardgrove		Free Swell		Hemi Temp
APEX MINE 7.80	40.80	47.20	12.00	66.70	4.40	0.80	401800	1070158	B	11740	09/01/88
DH NO 2 17.10	33.20	46.40	20.40	59.80	4.20	0.50	401811	1070630	B	10250	09/01/88
DH NO 1 10.50	38.00	52.40	9.80	69.80	5.10	0.60	401824	1070705	B	0.0	2912
DH NO 5 9.40	37.90	53.80	8.30	70.70	4.90	0.60	401838	1070547	B	12150	09/01/88
DH NO 3 8.00	43.80	48.60	7.60	70.10	5.30	2.80	401907	1070613	B	12540	09/01/88
DH NO 4 7.50	37.30	37.80	24.90	55.40	4.40	3.40	401920	1070501	B	0.5	2003
EDNA STRIP MINE 6.40	40.90	55.90	3.20	75.90	5.10	0.60	402000	1065035	B	10000	09/01/88
ENERGY NO 1 STRIP MINE 5.70	37.30	43.80	18.80	62.80	4.50	0.60	402035	1070315	B	0.5	2452
ENERGY NO 1A STRIP MINE 7.00	41.00	50.80	8.20	71.10	5.00	0.60	402050	1070250	B	12430	09/01/88
8.20	37.30	54.50	8.20	72.70	4.90	0.50	402055	1070645	B	13290	09/01/88
ENERGY STRIP MINE NO 2 10.40	43.50	51.90	4.50	74.10	5.00	0.60	402150	1071100	B	11030	09/01/88
8.20	38.80	54.20	7.00	73.50	5.10	0.40	402157	1070635	B	0.5	2417
10.80	39.10	41.60	19.30	62.00	4.10	2.50	402206	1070232	B	12900	09/01/88
10.30	40.10	49.00	10.90	68.40	4.50	1.90	402239	1070401	B	12140	09/01/88
9.80	39.80	53.00	7.20	72.70	5.00	2.00	402257	1070154	B	0.0	2111
ENERGY NO 3 STRIP MINE 10.90	41.20	50.70	8.10	69.40	4.90	0.60	402300	1065930	B	12950	09/01/88
										0.0	2012
										0.0	2147
										0.0	2777

## Coal Field Information Printout for: CO - Colorado

Location Moisture	Volatile Content	Fxd Crba	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
8.00	28.40	36.10	35.50	47.80	3.3.	0.70	D1'3094	402532	1074714	B	8150	09/01/88
											0.0	2615
NO 2 STRIP MINE		ROUTT					D176377	402615	1070715	B	12100	09/01/88
8.00	39.80	50.00	10.20	E9.00	4.90	0.50		13.70	1.70		0.5	2741
12.00	39.40	49.60	11.00	68.20	4.70	0.80	D184639	402740	1070310	B	12000	09/01/88
											0.0	2804
25.20	35.00	34.40	30.50	45.00	2.40	0.30	D187039	403130	1073400	SH	6780	09/01/88
											0.0	2804
GRIZZLY CREEK STRIP MINE	JACKSON						D174484	403200	1062115	SB	10460	09/01/88
17.80	38.90	45.20	15.90	60.80	4.40	1.20		16.80	0.90		0.0	2516
GRIZZLY CREEK STRIP MINE	JACKSON						D174481	403200	1062415	SB	7630	09/01/88
14.50	34.30	28.90	36.80	44.20	3.50	0.70		14.20	0.60		0.0	0
18.80	37.10	44.40	18.50	59.10	4.20	0.40	D187042	403420	1080300	SB	10070	09/01/88
											0.0	2354
20.40	39.80	53.30	6.90	69.30	4.60	0.80	D187041	403500	1074500	SB	11760	09/01/88
											0.0	2156
29.10	36.50	39.90	23.60	51.80	2.50	0.30		20.90	0.80		0.0	2291
16.50	45.50	38.80	15.70	57.60	4.40	0.20	D187040	403530	1074530	SB	7830	09/01/88
13.50	37.20	49.00	13.80	65.30	4.40	0.60	D184644	403600	1074200	SB	9810	09/01/88
											0.0	0
CANADIAN STRIP MINE	JACKSON						D170627	404127	1060636	SB	12550	09/01/88
14.50	37.30	55.20	7.50	71.90	4.90	0.20		14.30	1.20		0.0	2183
CANADIAN STRIP MINE	JACKSON						D172059	404158	1060635	SB	12800	09/01/88
12.80	42.80	51.40	5.80	72.30	5.10	0.80		14.90	1.10		0.0	2300
MARR NO 1 STRIP MINE	JACKSON						D172052	404255	1060656	SB	13150	09/01/88
14.20	41.30	56.30	2.40	75.00	5.00	0.20		16.20	1.20		0.0	2102
1.80	35.70	42.70	21.60	64.30	4.50	0.80	D166186	404500	1083730	B	11430	09/01/88
											0.0	0

**Coal Field Information Printout for  
GA - Georgia**

## Coal Field Information Printout for: GA - Georgia

Location Moisture	Volatile Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Oxygen	Code Number	Latitude	Longitude	Rank	Htg Val		Last Chg 09/01/88
												Nitrogen	Hardgrove	Free Swell
1.30	22.30	68.30	CHATTOOGA	9.40	79.60	4.40	1.00	343137	852932	B	14040	9.0	2804	
1.60	20.80	76.10	CHATTOOGA	3.10	88.00	4.60	1.10	343240	852942	B	15250	8.0	2327	
1.40	18.20	57.50	CHATTOOGA	24.30	66.50	3.80	0.90	343330	852812	B	11510	7.0	2551	
1.30	19.50	78.20	CHATTOOGA	2.30	88.50	4.10	0.70	343343	852921	B	15290	8.0	2350	
1.80	22.30	71.60	CHATTOOGA	6.10	83.10	4.40	0.70	343357	852626	B	14430	3.5	2220	
2.80	22.40	64.60	CHATTOOGA	13.00	75.30	4.00	1.10	343437	852803	B	12910	1.0	2750	
1.10	22.00	71.00	WALKER	7.00	81.00	3.90	2.50	343346	852917	B	14430	8.0	2201	
3.30	20.00	59.00	WALKER	21.00	67.60	3.80	1.80	343605	852617	B	11720	3.5	2624	
1.30	21.90	72.30	DADE	5.80	83.80	4.50	1.20	344054	852911	B	14660	9.0	2489	
1.40	20.40	67.10	DADE	12.50	77.30	4.20	1.00	344428	852912	B	13460	6.5	2759	
2.00	22.80	64.60	DADE	12.60	75.70	4.20	0.70	344631	853041	B	13160	3.5	2597	
1.50	18.30	47.00	DADE	34.70	55.40	3.30	1.30	344730	852845	B	9550	1.0	2804	
1.70	22.10	46.10	DADE	31.80	57.20	3.70	0.80	344756	853101	B	10100	5.0	2804	
1.90	26.20	57.20	DADE	16.60	71.40	4.30	1.10	344920	853022	B	12490	7.0	2417	
3.50	20.70	77.60	WALKER	1.70	87.30	4.30	0.50	344933	852632	B	15010	1.0	2480	
1.20	21.00	76.50	WALKER	2.50	87.30	4.70	3.50	344939	852546	B	15380	9.0	2390	

## Coal Field Information Printout for: GA - Georgia

Location Moisture	Volatile -	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
1.10	22.00	75.80	2.20	86.80	4.70	0.80	W199986	345031	852643	B	15330	09/01/88
											9.0	2381
1.50	20.70	67.80	11.50	74.80	4.70	4.50	W199984	345033	852645	B	13340	09/01/88
											7.5	2210
1.30	20.80	76.10	3.10	87.30	4.50	0.60	W199983	345043	852712	B	15110	09/01/88
											8.5	2804
1.10	20.60	75.50	2.90	87.60	4.60	0.60	W212563	345049	852442	B	15200	09/01/88
											7.5	2552
1.50	20.70	69.30	10.00	79.90	4.30	1.50	W212554	345115	852625	B	13990	09/01/88
											9.0	2696
1.30	20.70	71.80	7.50	80.90	4.50	0.70	W199987	345158	852508	B	14340	09/01/88
											7.0	2804
1.40	23.20	74.60	2.20	86.50	4.60	0.50	W209683	345231	852518	B	15240	09/01/88
											5.0	2507
1.50	21.20	76.70	2.10	86.80	4.60	0.50	W199988	345330	852422	B	15210	09/01/88
											7.0	2399
1.80	21.60	52.10	26.30	62.20	3.90	0.90	W209677	345440	853122	B	10950	09/01/88
											6.0	2804
2.10	25.70	57.50	16.80	71.00	4.30	0.50	W209678	345639	853533	B	12450	09/01/88
											2.0	2804
6.70	27.10	64.40	8.50	74.70	3.80	0.50	W199979	345653	853037	B	12490	09/01/88
											0.0	2201
1.40	27.50	64.80	7.70	75.60	4.70	4.70	W199981	345655	853047	B	14080	09/01/88
											9.0	2327
6.20	24.30	63.20	12.50	70.20	3.60	0.50	W199980	345702	853044	B	11680	09/01/88
											0.0	2804
1.30	26.50	59.10	14.40	72.00	4.40	5.40	W218692	345714	853010	B	13030	09/01/88
											8.5	2003
1.50	24.30	64.80	10.90	77.90	4.50	0.90	W199977	345756	853108	B	13680	09/01/88
											9.0	2804
1.40	27.40	66.70	5.90	80.60	4.50	3.10	W199978	345804	853116	B	14470	09/01/88
											9.0	2210

## Coal Field Information Printout for: GA - Georgia

Location Moisture	Volatile Ash	Fxd Crbn	Crbn	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
			Hydrogen	Sulfur	Hydrogen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
DADE		W199982	345818	853356	B		15190	09/01/88	
1.50	28.40	69.10	2.50	85.90	5.00	0.50	4.50	1.60	9.0
									2372

**Coal Field Information Printout for  
IA - Iowa**

## Coal Field Information Printout for: IA - Iowa

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
12.20	38.70	49.20	12.10	67.00	4.60	5.10	10.40	403750	922545	B	12110	09/01/88	2111
4.70	32.20	37.10	30.70	48.40	3.40	8.70	7.90	404242	925158	B	8890	09/01/88	2084
3.30	39.50	47.10	13.40	65.80	4.60	5.60	8.40	404315	923835	B	11900	09/01/88	2111
2.70	23.90	49.50	26.60	55.20	4.30	4.80	8.20	405254	921625	B	10300	09/01/88	2312
2.80	39.60	44.50	15.90	63.90	4.40	8.10	6.60	405322	923824	B	11760	09/01/88	2147
5.70	42.80	44.30	12.90	68.40	4.50	3.90	9.20	405403	922439	B	11900	09/01/88	2129
4.30	36.80	38.30	24.90	51.80	4.00	9.90	8.30	405456	921040	B	9680	09/01/88	2012
12.50	44.60	45.80	9.60	71.40	5.30	4.00	8.80	405950	923145	B	12890	09/01/88	1958
9.80	42.90	45.70	11.40	69.50	4.90	6.30	6.80	410000	923000	B	12690	09/01/88	0
13.10	43.30	41.20	15.50	64.90	4.50	4.40	9.40	410000	925230	B	11500	09/01/88	0
11.90	42.00	42.70	15.30	65.30	4.70	4.10	9.20	410000	930000	B	11830	09/01/88	0
7.00	42.70	32.90	24.40	57.70	4.10	5.70	7.10	410017	923715	B	10230	09/01/88	2316
13.60	43.90	45.30	10.80	70.50	5.00	4.20	8.50	410154	923817	B	12700	09/01/88	2111
9.90	36.00	39.40	24.60	56.00	4.00	9.00	5.50	410221	923107	B	10260	09/01/88	2138
14.00	31.70	42.30	26.00	53.20	3.70	10.30	5.80	410238	923125	B	9500	09/01/88	2030
9.10	31.00	32.90	36.10	37.80	2.70	21.10	1.70	410240	923645	B	7600	09/01/88	2237

## Coal Field Information Printout for: IA - Iowa

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Fres Swell	Hemi Temp
LOVILLA NO 2 MINE 16.20 40.30	MONROE MONROE	D186075 D186076	4.30	3.80	7.60	1.40	923410 930410	B	12110 1.0	09/01/88 2111
15.10 40.20	41.90 17.90	67.50 65.30	4.50	3.70	7.30	1.30			1.0	2156
17.00 38.70	48.20 13.10	68.40 4.40	6.10	6.60	1.40				1.0	2201
14.50 38.20	47.10 14.70	65.50 MAHASKA	4.40	6.20	8.00	1.20	410636 410730	B	12330 11890	09/01/88 09/01/88
11.10 43.10	46.00 10.90	67.80 MAHASKA	5.20	6.30	8.70	1.10	930950 411029		0.0	0
15.40 39.60	44.90 15.50	64.10 MAHASKA	4.50	8.40	6.60	0.90	923445 411128	B	12260 11760	09/01/88 09/01/88
13.90 38.80	45.60 15.50	61.90 MAHASKA	4.40	10.30	6.90	0.90	411135 411340	B	11490 1.0	09/01/88 2255
13.00 43.40	44.20 12.40	68.80 MAHASKA	4.90	5.40	7.60	0.90	924540 924720	B	12570 1.0	09/01/88 2255
STAR MINE 13.10 39.80	42.70 17.50	61.90 MAHASKA	4.40	7.90	7.30	1.00			1.0	2111
12.20 40.00	40.30 19.70	61.10 MAHASKA	4.20	6.80	7.20	1.00			1.0	2111
15.60 42.20	45.40 12.40	68.40 MARION	4.70	4.50	8.80	1.20			1.0	2201
21.10 40.10	45.70 14.20	64.70 MARION	4.30	4.10	11.60	1.10	411445 412615	B	11090 11470	09/01/88 09/01/88
14.50	41.80	40.40 17.80	63.20	2.90	10.70	1.10	923642 411715	B	12340 0.0	09/01/88 2102
12.10 38.00	43.80 18.20	63.70 LUCAS	4.40	2.60	9.70	1.40	930140 420000	B	11290 0.0	09/01/88 0

**Coal Field Information Printout for  
ID - Idaho**

## Coal Field Information Printout for: ID - Idaho

Location Moisture	Volatile Moisture	Fxd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
								Hardgrove	Free Swell	Hemi Temp		
COAL BANKS SPRING MINE	8.80	38.60	30.30	31.10	46.60	4.20	D176407	4.20413	1135908	L	8230	09/01/88
						2.50		14.70	0.90		0.0	2192
BROWN BEAR MINE	20.70	39.70	31.30	29.00	44.90	3.50	D177463	431451	1164637	L	7390	09/01/88
						1.80		19.90	0.90		0.0	2408
PINTAR MINE	3.30	36.40	50.70	12.90	69.60	5.20	D176400	434310	1111822	B	12220	09/01/88
						0.50		10.90	0.90		0.0	2453
	4.40	38.60	51.00	10.40	69.80	4.90	D176402	434425	1112008	B	12170	09/01/88
						0.60		12.70	1.60		0.0	2174

**Coal Field Information Printout for  
IL - Illinois**

## Coal Field Information Printout for: IL - Illinois

Location	Volatiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture		Ash				Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
3.50	38.20	50.20	11.60	68.40	4.90	4.00	380059	693312	E	12230	09/01/88	
			PERRY		W189298					1.0	2057	
4.10	36.40	56.30	7.30	72.30	4.80	3.80	380101	893305	B	12870	09/01/88	
			PERRY		W189303					1.5	1967	
5.50	39.30	53.90	6.80	72.70	5.10	3.60	380101	893307	B	13020	09/01/88	
			PERRY		W189314					1.0	1967	
5.70	40.80	52.00	7.20	73.30	5.10	3.00	380101	893309	B	13020	09/01/88	
			PERRY		W192929					2.5	2129	
4.40	38.50	47.30	14.20	63.90	4.60	9.10	380206	885748	B	11960	09/01/88	
			FRANKLIN		W192933					5.0	2129	
4.70	40.20	51.10	8.70	73.40	5.20	2.80	380206	885754	B	13270	09/01/88	
			FRANKLIN		W192933					4.5	2264	
6.20	35.10	62.30	2.60	78.50	5.20	0.50	380850	890350	B	13940	09/01/88	
			MONTGOMERY		D176954					1.0	2156	
5.60	40.40	51.10	8.50	71.10	5.20	2.90	390502	892048	B	12660	09/01/88	
			MONTGOMERY		D176948					2.5	2129	
8.10	40.40	51.00	8.60	69.40	5.10	4.40	390505	892045	B	12320	09/01/88	
			MONTGOMERY		D176941					1.0	1823	
6.40	43.70	46.80	9.50	73.10	5.50	3.20	390505	892050	B	13290	09/01/88	
			JEFFERSON		D176958					1.0	2129	
4.10	36.70	53.20	10.10	71.00	4.90	2.70	390808	890930	B	12610	09/01/88	
			MACOURPIN		W192935					1.0	2012	
11.80	40.40	49.20	10.40	69.30	4.90	4.10	392839	894336	B	12340	09/01/88	
			FULTON		W191085					4.0	2066	
4.20	38.60	55.20	6.20	73.20	5.30	3.10	401730	902230	B	13220	09/01/88	
			PEORIA		W191079					1.0	2057	
2.80	38.20	51.40	10.40	71.80	5.10	2.00	402600	900100	B	12860	09/01/88	
										3.5	2255	
3.10	38.60	54.70	6.70	73.90	5.20	5.50	404400	895640	B	13290	09/01/88	
			KNOX		W191095					4.5	2111	
3.70	38.50	50.50	11.00	67.90	4.90	10.20	410230	901345	B	12290	09/01/88	
										1.0	1994	

**Coal Field Information Printout for  
IN - Indiana**

Coal Field Information Printout for: IN - Indiana

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
					WARRICK	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove
STRIP	8.70	36.00	51.30	12.70	66.60	4.70	4.90	9.50	9.50	1.50	12000
STRIP	10.00	37.70	53.30	9.00	71.70	5.10	2.60	10.00	1.60	1.0	09/01/88
WRIGHT MINE	10.80	42.50	49.20	8.20	72.80	5.20	3.30	9.00	1.50	0.0	2246
STRIP	8.40	34.60	51.80	13.60	66.00	4.50	5.20	9.40	1.30	0.0	09/01/88
STRIP	11.00	37.30	57.80	4.90	75.90	5.30	1.60	10.50	1.80	1.0	1994
STRIP	9.50	40.10	50.30	9.60	70.00	5.00	5.90	8.20	1.30	1.5	2615
STRIP	8.10	39.30	50.80	9.90	69.10	4.90	6.00	8.80	1.30	1.0	2228
CORUM PIT NO 1	12.70	41.00	55.80	3.20	72.60	4.90	1.60	16.60	0.90	0.0	1958
STRIP	8.50	40.80	51.90	7.30	71.00	5.20	4.20	11.20	1.10	1.0	1994
STRIP	7.80	38.90	53.60	7.50	70.70	5.10	4.60	10.70	1.40	1.0	2048
STRIP	9.80	36.40	56.30	7.30	70.80	4.90	4.30	11.10	1.60	1.0	2093
STRIP	10.70	35.50	57.60	6.90	72.30	5.10	4.50	10.10	1.10	1.0	2102
PAINTER PIT	5.70	40.60	51.10	8.30	68.30	5.10	6.20	11.10	1.00	1.0	2075
STRIP	9.70	38.20	48.70	13.10	67.00	4.80	4.10	9.40	1.60	1.0	2129
STRIP	9.60	38.50	49.30	12.20	68.20	4.80	4.40	8.90	1.50	1.0	2120
STRIP	7.80	38.70	52.80	8.50	71.70	4.90	3.50	9.90	1.50	3.5	2021

## Coal Field Information Printout for: IN - Indiana

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
STRIP	8.20	39.00	51.20	9.80	69.90	W191045	380514	871545	B	12650	09/01/88
							10.10	1.50		2.0	2111
STRIP	8.00	40.80	49.50	9.70	69.30	W191057	380516	871615	B	12610	09/01/88
							4.90	4.70	10.40	1.00	1.0
STRIP	9.00	39.30	51.20	9.50	70.20	W191058	380517	871615	B	12710	09/01/88
							5.20	4.20	9.80	1.10	2.0
MS NO 2 PIT	8.60	37.60	52.10	10.30	71.40	W193122	380534	871544	B	12830	09/01/88
							5.00	2.80	9.10	1.40	4.0
LYNNVILLE III PIT	14.60	33.70	59.60	6.70	75.40	W193124	380542	871403	B	13290	09/01/88
							4.80	1.10	10.10	1.90	1.0
STRIP	8.90	*40.00	45.50	14.50	67.30	W191052	380654	872432	B	12000	09/01/88
							4.60	3.40	9.10	1.10	1.0
STRIP	10.60	36.20	47.50	16.30	63.50	W192625	380715	872102	B	11480	09/01/88
							4.40	5.30	9.00	1.50	1.0
STRIP	10.00	38.70	49.60	11.70	67.90	W192624	380716	872102	B	12230	09/01/88
							4.90	4.70	9.20	1.60	1.0
STRIP	9.40	40.80	49.80	9.40	70.80	W192626	380718	872057	B	12650	09/01/88
							4.90	3.60	9.80	1.50	1.0
NO 3 KAETZEL PIT	3.80	39.10	51.10	9.80	71.60	W194391	380744	865526	B	12920	09/01/88
							4.90	3.30	8.90	1.50	3.5
NO 3 KAETZEL PIT	3.80	40.30	51.70	8.00	73.90	W194392	380747	865526	B	13240	09/01/88
							5.00	2.80	8.80	1.50	4.0
STRIP	10.10	36.50	53.60	9.90	70.30	W191034	380835	865554	B	12600	09/01/88
							4.90	2.90	10.60	1.40	1.0
STRIP	15.90	35.90	56.30	7.80	71.40	W191037	380835	865555	B	12320	09/01/88
							4.70	0.80	13.90	1.40	0.0
STRIP	8.80	35.40	53.60	11.00	69.70	W191035	380847	865751	B	12490	09/01/88
							5.00	2.40	10.50	1.40	1.0
STRIP	8.40	35.40	50.70	13.90	67.60	W191036	380847	865752	B	12000	09/01/88
							4.80	2.40	10.00	1.30	1.0
LYNNVILLE MINE	11.30	39.70	47.60	12.70	69.50	D173487	381030	870735	B	12440	09/01/88
							4.80	3.80	7.80	1.40	0.0

## Coal Field Information Printout for: IN - Indiana

Location Moisture	Volatile Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
	Fxd Crbn	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
STRIP 9.80	36.00	53.90	10.10	68.00	4.90	11.20	1.00	09/01/88
DOHR PIT 9.50	36.60	56.30	7.10	74.80	5.00	1.50	10.10	1.50
STRIP 6.30	42.00	48.80	9.20	69.80	5.30	4.50	10.00	1.20
STRIP 8.00	44.20	46.90	8.90	71.30	5.20	3.90	9.10	1.60
STRIP 9.40	43.30	47.10	9.60	70.20	5.00	4.60	9.10	09/01/88
PIT NO 4 5.10	35.90	47.50	16.60	65.10	4.60	3.70	8.50	1.50
PIT NO 4 6.20	39.70	46.80	13.50	66.60	4.70	5.10	8.60	1.50
STRIP 9.70	45.20	46.50	8.30	74.00	5.10	3.50	7.70	1.40
HOPF NO 2 PIT 2.10	39.80	46.30	13.90	66.10	4.70	7.90	6.20	1.20
HOPF NO 2 PIT 2.20	41.00	45.40	13.60	66.90	4.80	6.50	7.00	1.20
STRIP 6.70	35.20	56.40	8.40	71.10	5.30	2.90	10.80	1.50
STRIP 7.60	38.90	52.40	8.70	70.70	5.10	3.90	10.10	1.50
STRIP 10.00	33.20	59.10	7.70	71.40	4.90	2.80	11.60	1.60
STRIP 11.10	35.50	49.30	16.20	67.00	4.50	3.30	7.70	1.30
STRIP 9.70	35.90	55.40	8.70	72.50	5.00	2.80	9.60	1.40
STRIP 9.00	39.60	53.70	6.70	74.20	5.30	1.50	11.20	1.10

Coal Field Information Printout for: IN - Indiana

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
STRIP	9.20	37.80	53.30	8.90	PIKE	W191055	5.00	3.30	382239	871405	B	12600	09/01/88	
STRIP	7.60	38.30	53.00	8.70	PIKE	W190532	5.40	3.70	382528	871236	B	12810	09/01/88	2057
STRIP	16.20	39.10	58.50	2.40	CLAY	W192634	5.10	1.00	382330	870552	B	14180	09/01/88	2048
R&H MINE	9.50	43.20	47.40	9.40	PIKE	D173483	5.00	5.90	382530	871542	B	12990	09/01/88	2354
REESE PIT	8.40	36.00	49.80	14.20	PIKE	W188932	4.90	1.50	382542	871558	B	12110	09/01/88	0
STRIP	11.10	38.90	56.90	4.20	MARTIN	W192629	4.90	4.10	383446	865235	B	13790	09/01/88	2336
STRIP	12.10	36.60	46.30	17.10	MARTIN	W192628	4.70	1.10	383447	865235	B	11720	09/01/88	
NEWELL PIT NO 1	11.20	40.90	49.80	9.30	KNOX	W188948	5.20	3.50	385327	871414	B	12960	09/01/88	2093
STRIP	6.30	41.30	47.90	10.80	KNOX	D172303	4.70	3.40	385345	871455	B	12720	09/01/88	2129
STRIP	7.50	38.50	44.90	16.60	SULLIVAN	D172304	4.70	3.80	385720	871530	B	11920	09/01/88	
STRIP	6.50	46.50	46.50	7.00	GREENE	D172305	5.40	2.70	390250	870340	B	13670	09/01/88	0
NUGGER	15.00	33.40	58.20	8.40	SULLIVAN	W193120	4.90	0.40	390349	872023	B	13200	09/01/88	
STRIP	12.70	35.90	53.70	10.40	SULLIVAN	W191049	5.40	1.60	390447	871522	B	12760	09/01/88	2804
STRIP	11.50	37.20	50.60	12.20	SULLIVAN	W191046	5.00	1.80	390447	871523	B	12440	09/01/88	2399
JH&L COAL CO PIT NO 7	8.40	41.60	51.50	6.90	GREENE	W188946	5.20	2.90	390458	871250	B	13080	09/01/88	
STRIP	8.80	36.30	54.80	9.10	SULLIVAN	D172309	4.80	0.40	390550	872010	B	13150	09/01/88	2012

## Coal Field Information Printout for: IN - Indiana

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	-Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen	Hardgrove	Free Swell			
STRIP	9.70	39.40	50.30	10.30	70.10	5.10	2.80	10.10	390654	871049	B	12600	09/01/88	2084
STRIP	9.30	36.20	52.70	11.10	69.30	4.60	3.10	10.70	391051	871050	B	12470	09/01/88	2156
STRIP	6.30	41.00	47.50	11.50	70.60	4.90	2.70	8.90	390840	871940	B	12730	09/01/88	0
STRIP	5.00	41.30	46.00	12.70	68.50	4.80	4.70	8.00	391135	871709	B	12480	09/01/88	0
STRIP	13.80	36.20	53.50	10.30	69.90	4.70	3.80	9.80	391148	872106	B	12470	09/01/88	2129
BIRDSONG MINE	5.70	42.30	48.30	9.40	71.80	5.30	3.90	8.30	391235	871439	B	13020	09/01/88	2246
BIRDSONG MINE	4.60	44.90	46.10	9.00	71.80	4.80	3.40	9.70	391235	871440	B	13060	09/01/88	2552
STRIP	9.10	35.80	56.10	8.10	71.50	5.00	2.90	11.00	391245	871142	B	12810	09/01/88	2057
STRIP	6.60	38.30	43.70	18.00	65.50	4.60	2.50	8.00	391245	871210	B	11760	09/01/88	0
PIT NO 2	13.90	33.30	57.10	9.60	73.40	4.70	2.00	8.90	391434	870136	B	13010	09/01/88	2246
STRIP	21.40	34.40	55.70	9.90	68.80	4.10	0.50	15.60	391634	870205	B	11480	09/01/88	2912
STRIP	5.70	37.90	53.20	8.90	74.50	4.80	2.20	8.20	391655	865735	B	13170	09/01/88	0
STRIP	15.60	32.10	57.70	10.20	70.50	4.50	2.00	11.70	391710	865736	B	12380	09/01/88	2678
BLUE HOLE NO 1 PIT	12.30	42.50	49.40	8.10	73.30	5.40	3.10	8.70	392204	871627	B	13140	09/01/88	2093
STRIP	15.60	36.50	57.80	5.70	76.90	5.30	0.80	* 4.90	392407	870614	B	13640	09/01/88	2912
STRIP	13.70	26.00	66.90	7.10	75.40	4.70	1.00	10.80	392504	871400	B	13330	09/01/88	2417

## Coal Field Information Printout for: IN - Indiana

Location Moisture	Volatile Moisture	Frac Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
										Hardgrove	Free Swell	Hemi Temp	
STRIP	16.10	35.90	58.60	5.50	77.80	5.40	W192-33	392530	870552	B	13680	09/01/88	
STRIP	15.40	36.10	57.50	6.40	76.60	5.10	W192E32	392531	870552	B	13630	09/01/88	
STRIP	12.00	35.00	49.50	15.50	65.00	4.70	W190548	392635	871150	B	11900	09/01/88	
TURNER PIT NO 1	13.00	42.30	49.70	8.00	72.40	5.20	W188940	392945	870922	B	13080	09/01/88	
STRIP	13.00	26.90	65.30	6.80	74.80	4.90	W190544	393256	870618	B	13360	09/01/88	
STRIP	13.10	37.10	55.80	7.10	74.00	4.80	W190535	393603	870613	B	13140	09/01/88	
UNIVERSAL SOUTH PIT NO 2	10.30	40.20	45.40	14.40	66.30	4.90	W188950	393624	872856	B	12080	09/01/88	
TURNER PIT	14.10	40.40	51.70	7.90	74.20	5.30	PARKE	393627	870601	B	13130	09/01/88	
UNIVERSAL SOUTH PIT NO 2	10.80	36.00	41.60	22.40	60.50	4.50	VERMILLION	W188952	872951	B	10770	09/01/88	
BAIRD PT	10.00	39.10	49.50	11.40	66.90	5.00	VERMILLION	W193121	395344	873017	B	12300	09/01/88
STRIP	11.00	36.10	49.00	14.90	63.80	4.60	VERMILLION	W191059	395344	873018	B	11560	09/01/88
STRIP	11.60	36.10	50.90	13.00	67.50	4.70	VERMILLION	W191054	395344	873019	B	12060	09/01/88
STRIP	9.20	40.30	48.10	11.60	66.90	5.20	VERMILLION	W191043	395427	873046	B	12160	09/01/88
STRIP	13.30	39.60	45.30	15.10	65.00	4.50	FOUNTAIN	D172310	395755	872455	B	12020	09/01/88

**Coal Field Information Printout for**

**KS - Kansas**

## Coal Field Information Printout for: KS - Kansas

Location Moisture	Volatile Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
WILKINSON INC MINE 3.30	52.10	CHEROKEE 15.60	70.50	4.40	4.10	1.20	7.5	1976 09/01/88
WILKINSON INC MINE 3.30	52.10	CHEROKEE 15.60	70.50	4.40	4.10	1.20	7.5	1976 09/01/88
CLEMENS NO 25 MINE 2.30	34.20	CRAWFORD 21.50	59.00	3.90	12.60	2.10	0.90	2507 09/01/88
CLEMENS NO 25 MINE 2.50	34.80	CRAWFORD 20.30	61.50	4.50	10.50	2.20	1.00	2417 09/01/88
CLEMENS NO 25 MINE 3.90	36.00	CRAWFORD 13.80	68.50	4.60	7.00	5.10	1.00	2237 09/01/88
CLEMENS NO 25 MINE 1.70	35.90	CRAWFORD 17.50	65.80	4.50	8.40	2.70	1.10	2066 09/01/88
CLEMENS NO 25 MINE 1.70	35.90	CRAWFORD 17.50	65.80	4.50	8.40	2.70	1.10	2066 09/01/88
CLEMENS NO 25 MINE 1.70	35.90	CRAWFORD 17.50	65.80	4.50	8.40	2.70	1.10	2066 09/01/88
DELL LAMB MINE 5.50	38.50	WILSON 17.40	65.60	4.40	4.70	6.30	1.60	4.0 1976 09/01/88
DELL LAMB MINE 5.50	38.50	WILSON 17.40	65.60	4.40	4.70	6.30	1.60	4.0 1976 09/01/88
CLEMENS NO 22 MINE 1.90	36.90	CRAWFORD 18.60	66.70	4.60	5.20	3.70	1.20	6.0 2066 09/01/88
CLEMENS NO 22 MINE 2.20	38.80	CRAWFORD 13.10	71.90	4.90	3.50	5.30	1.30	7.5 1976 09/01/88
CLEMENS NO 22 MINE 2.20	38.80	CRAWFORD 13.10	71.90	4.90	3.50	5.30	1.30	7.5 2102 09/01/88
CLEMENS NO 22 MINE 2.60	36.20	CRAWFORD 12.50	72.10	4.80	4.80	4.50	1.30	8.0 1940 09/01/88
CLEMENS NO 22 MINE 2.60	36.20	CRAWFORD 12.50	72.10	4.80	4.80	4.50	1.30	8.0 1940 09/01/88
CLEMENS NO 22 MINE 2.60	36.80	CRAWFORD 19.20	67.10	4.50	3.90	4.20	1.10	8.5 2048 09/01/88

Coal Field Information Printout for: KS - Kansas

**Coal Field Information Printout for  
KY - Kentucky**

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	BELL	W208201	361114	833711	B	11500	09/01/88				
2.10	31.80	46.10	22.10	64.40	4.80	0.70	6.20	1.80		5.0	2741
SURFACE MINE	BELL	W213409	363515	834523	B	13730	09/01/88				
1.90	37.40	55.00	7.60	77.10	5.10	0.80	7.50	1.90		4.5	2678
SURFACE MINE	BELL	W213391	363600	834650	B	13320	09/01/88				
1.80	37.80	51.20	11.00	73.30	5.20	2.50	6.30	1.70		5.0	2282
SURFACE MINE	BELL	W213390	363601	834648	B	14860	09/01/88				
1.80	38.10	58.60	3.30	81.90	5.50	0.70	6.70	1.90		6.5	2687
SURFACE MINE	BELL	W213421	363603	834701	B	8480	09/01/88				
2.10	28.30	32.20	39.50	47.70	3.70	0.90	7.00	1.20		1.0	2804
SURFACE MINE	BELL	W213389	363606	834700	B	14470	09/01/88				
2.50	35.60	60.80	3.60	80.20	5.30	0.80	8.30	1.80		4.5	2723
SURFACE MINE	BELL	W213392	363610	834655	B	14340	09/01/88				
2.30	38.50	56.50	5.00	79.90	5.40	1.20	6.50	2.00		6.0	2543
SURFACE MINE	BELL	W213423	363614	834659	B	12490	09/01/88				
1.90	33.60	51.00	15.40	69.50	4.60	2.20	6.50	1.80		3.5	2480
SURFACE MINE	BELL	W213424	363614	834702	B	14530	09/01/88				
1.80	39.60	56.70	3.70	80.00	5.60	0.70	8.00	2.00		4.0	2723
SURFACE MINE	BELL	W213425	363615	834704	B	14190	09/01/88				
2.30	37.30	57.60	5.10	78.80	5.30	1.40	7.50	1.90		2.0	2147
SURFACE MINE	MCCREARY	W212496	363655	842509	B	14260	09/01/88				
3.10	36.80	58.50	4.70	79.70	5.30	0.70	7.60	2.00		3.0	2498
SURFACE MINE	MCCREARY	W212495	363656	842513	B	13920	09/01/88				
2.90	37.60	55.60	6.80	78.00	5.20	0.90	7.30	1.80		4.0	2804
UNDERGROUND MINE	BELL	W207897	363711	834916	B	11480	09/01/88				
2.40	31.50	46.40	22.10	63.60	4.30	2.30	6.10	1.60		5.0	2633
UNDERGROUND MINE	BELL	W207866	363729	834913	B	13030	09/01/88				
2.50	33.90	53.70	12.40	73.70	4.90	0.70	6.50	1.80		4.0	2696
SURFACE MINE	WHITLEY	W213397	363729	841158	B	14590	09/01/88				
2.20	35.90	61.20	2.90	81.40	5.30	0.90	7.40	2.10		4.0	2138
UNDERGROUND MINE	BELL	W207814	363823	834851	B	13620	09/01/88				
3.50	36.70	55.20	8.10	76.00	5.10	.0.70	8.10	2.00		3.5	2804

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val.	Last Chg
									Oxygen	Nitrogen	Hardgrove	Fine Swell		Hemi Temp
UNDERGROUND MINE	3.60	45.40	20.50	65.00	BELL	4.50	0.60	8.10	W207900	363824	835037	B	11620	09/01/88
PORTAL	2.80	36.90	54.30	8.80	75.90	5.10	0.70	7.50	W207813	363825	834852	B	13630	09/01/88
UNDERGROUND MINE	3.00	37.10	58.30	4.60	79.70	5.20	0.60	8.00	W207812	363837	834826	B	5.0	2804
SURFACE MINE	2.80	28.50	38.80	32.70	BELL	54.00	3.80	0.80	W207899	363850	834907	B	14200	09/01/88
UNDERGROUND MINE	3.00	30.60	45.40	24.00	BELL	62.20	4.30	1.20	W207811	363857	834854	B	11080	09/01/88
SURFACE MINE	2.40	37.90	56.30	5.80	BELL	78.60	5.30	0.80	W215417	363947	834850	B	4.0	2660
SURFACE MINE	2.50	37.80	59.40	2.80	BELL	81.30	5.40	0.90	W215416	363948	834855	B	14020	09/01/88
SURFACE MINE	2.20	38.10	58.70	3.20	BELL	81.60	5.50	0.70	W208200	364114	833711	B	14750	09/01/88
DRILL CORE	2.20	40.60	50.20	9.20	WHITLEY	74.70	5.20	2.90	W212089	364114	841235	B	4.5	2444
UNDERGROUND MINE	2.20	35.80	45.90	18.30	BELL	66.30	4.80	2.70	W208057	364117	833438	B	13470	09/01/88
UNDERGROUND MINE	2.20	35.20	46.10	18.70	BELL	66.20	4.90	2.40	W208056	364117	833439	B	2192	09/01/88
SURFACE MINE	2.20	32.90	49.90	17.20	BELL	69.50	4.80	1.10	W208058	364119	833654	B	12200	09/01/88
DRILL CORE	2.10	40.40	47.80	11.80	WHITLEY	72.10	5.10	2.60	W212090	364156	841100	B	7.0	2372
SURFACE MINE	2.40	38.50	57.60	3.90	BELL	81.10	5.50	0.70	W207901	364210	833422	B	12500	09/01/88
UNDERGROUND MINE	2.30	30.60	45.60	23.80	WHITLEY	63.30	4.10	0.80	W203625	364220	835701	B	11170	09/01/88
SURFACE MINE	2.10	36.60	61.40	2.00	BELL	83.30	5.30	0.70	W215404	364225	834520	B	14690	09/01/88

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatile Crbn	Fxd Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
SURFACE MINE	3.10	52.90	KNOX	6.40	77.80	5.30	0.70	W213937	364245	835533	B	13860	09/01/88
SURFACE MINE	7.30	57.30	WHITEY	2.90	79.60	5.20	0.90	W213954	364245	840322	B	14030	09/01/88
SURFACE MINE	2.90	40.30	WHITEY	3.40	79.50	5.40	2.20	W213953	364300	835737	B	14410	09/01/88
SURFACE MINE	3.30	37.30	WHITEY	50.40	12.30	71.40	4.90	W213952	364304	835731	B	12670	09/01/88
UNDERGROUND MINE	6.40	38.60	KNOX	59.80	1.60	82.50	5.50	W213936	364310	835557	B	14620	09/01/88
SURFACE MINE	2.70	44.60	MCCREARY	46.90	8.50	73.40	5.30	W208217	364338	843334	B	13420	09/01/88
CONSTRUCTION SITE	2.00	39.40	BELL	57.30	3.30	81.30	5.40	W213023	364510	833345	B	14670	09/01/88
SURFACE MINE	3.50	55.10	BELL	10.40	74.30	4.70	0.70	W214779	364518	834547	B	13090	09/01/88
SURFACE MINE	2.00	37.70	BELL	55.80	6.50	76.80	5.30	W213022	364519	833229	B	14130	09/01/88
SURFACE MINE	4.60	38.70	BELL	52.40	8.90	74.70	5.00	W214700	364520	834545	B	13420	09/01/88
SURFACE MINE	3.60	38.70	BELL	57.60	3.70	81.90	5.30	W213944	364522	833228	B	14530	09/01/88
SURFACE MINE	1.60	35.90	BELL	52.80	11.30	73.20	4.80	W215419	364548	834317	B	13060	09/01/88
SURFACE MINE	2.40	34.70	BELL	54.30	11.00	71.90	4.90	W215420	364550	834323	B	13140	09/01/88
UNDERGROUND MINE	1.80	36.70	BELL	47.50	15.00	70.10	4.80	W213024	364606	833231	B	12590	09/01/88
UNDERGROUND MINE	2.40	37.30	BELL	59.00	3.70	80.70	5.20	W212762	364643	833843	B	14460	09/01/88
SURFACE MINE	2.20	38.90	BELL	57.80	3.30	81.20	5.40	W215439	364645	833731	B	14630	09/01/88

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatile Ash	Fod Crbn.	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg Hemi Temp
SURFACE MINE 1.30	39.80	51.90	BELL	8.30	75.20	5.20	W215408	364645	833922	B	13810	09/01/88 2111
SURFACE MINE 1.70	40.30	55.80	KNOX	3.90	79.80	5.40	W215398	364805	835621	B	14600	09/01/88 2012
SURFACE MINE 3.60	38.40	58.70	WHITEY	2.90	81.00	5.50	W207985	364805	840333	B	14550	09/01/88 2201
UNDERGROUND MINE 2.00	36.10	56.70	HARLAN	7.20	77.80	5.10	W215429	364806	831212	B	13970	09/01/88 2552
SURFACE MINE 4.50	37.70	60.20	WHITEY	2.10	81.80	5.50	W205325	364826	840517	B	14600	09/01/88 2417
SURFACE MINE 5.20	37.80	59.60	WHITEY	2.60	81.10	5.40	W207984	364828	840523	B	14360	09/01/88 2048
UNDERGROUND MINE 1.70	34.40	51.20	HARLAN	14.40	70.60	4.80	W215431	364840	831312	B	12580	09/01/88 2532
SURFACE MINE 2.90	38.80	57.60	KNOX	3.60	80.50	5.50	W214263	364841	8352J4	B	14650	09/01/88 2120
PORTAL 2.00	41.30	53.40	HARLAN	5.30	78.90	5.40	W215430	364845	831221	B	14210	09/01/88 2156
SURFACE MINE 2.80	41.50	52.70	KNOX	5.80	77.30	5.40	W214264	364845	835239	B	14100	09/01/88 2300
SURFACE MINE 2.40	41.70	49.30	WAYNE	9.00	73.90	5.30	W212054	364859	843710	B	13400	09/01/88 2210
UNDERGROUND MINE 2.60	34.30	52.10	HARLAN	13.60	71.30	4.70	W215428	364934	831007	B	12600	09/01/88 2498
SURFACE MINE 2.80	39.50	57.00	KNOX	3.50	79.80	5.40	W213119	365005	835928	B	14550	09/01/88 2003
SURFACE MINE 5.80	35.30	58.80	MCCREARY	5.90	78.00	5.10	W214269	365005	842938	B	13800	09/01/88 2804
UNDERGROUND MINE 2.90	34.60	56.90	HARLAN	8.50	76.30	4.80	W215434	365006	831507	B	13450	09/01/88 2687
SURFACE MINE 4.50	38.00	52.60	MCCREARY	9.40	74.00	5.10	W214268	365006	842938	B	13250	09/01/88 2579

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Volatiles	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	KNOX	W213120		3552011	835942	B		14200	09/01/88	
3.40	37.30	57.20	5.50	78.60	5.30	0.80	7.90	1.90	3.5	2273
SURFACE MINE	WHITEY	W214772		365012	840455	B		14840	09/01/88	
3.90	37.80	60.50	1.70	83.10	5.40	0.70	7.10	2.00	5.0	2417
SURFACE MINE	WHITEY	W214775		365012	840500	B		14300	09/01/88	
4.80	37.70	58.60	3.70	81.00	5.30	1.00	7.00	2.00	5.5	2678
UNDERGROUND MINE	HARLAN	W215433		365015	811658	B		13600	09/01/88	
2.10	35.60	55.70	3.70	76.00	5.10	1.40	6.70	2.10	4.0	2723
UNDERGROUND MINE	HARLAN	W215432		365019	831706	B		12810	09/01/88	
2.30	31.60	54.90	13.50	73.00	4.60	0.70	6.50	1.70	3.5	2804
UNDERGROUND MINE	MCCREADY	W212055		365039	842632	B		12710	09/01/88	
2.90	36.30	52.20	11.50	71.60	4.90	2.00	8.10	1.90	3.5	2597
UNDERGROUND MINE	BELL	W215394		365049	633805	B		14500	09/01/88	
1.70	39.40	56.00	4.50	79.80	5.40	2.80	5.50	1.90	6.0	2138
UNDERGROUND MINE	BELL	W215393		365053	833809	B		15080	09/01/88	
1.50	39.30	59.00	1.70	83.60	5.70	0.90	6.10	2.00	4.5	2336
UNDERGROUND MINE	HARLAN	W211639		365123	831239	B		12900	09/01/88	
1.50	36.20	50.50	13.30	72.10	4.90	2.60	5.50	1.60	6.0	2489
UNDERGROUND MINE	HARLAN	W211638		365125	831239	B		12430	09/01/88	
1.80	33.70	51.00	15.30	71.00	4.80	0.60	6.70	1.60	2.0	2804
SURFACE MINE	WAYNE	W214237		365125	844214	B		13380	09/01/88	
9.10	34.70	59.70	5.60	78.60	4.60	1.30	8.60	1.30	2.0	2336
ROAD CUT	KNOX	W213010		365158	833246	B		14340	09/01/88	
3.20	42.10	53.50	4.40	79.80	5.40	2.60	6.00	1.80	4.0	2021
SURFACE MINE	BELL	W214791		365210	831727	B		14520	09/01/88	
2.20	39.80	56.80	3.40	81.30	5.60	1.00	6.80	1.90	4.5	2678
PROSPECT	HARLAN	W214793		365229	830521	B		14080	09/01/88	
4.00	40.50	57.00	2.50	80.10	5.40	0.80	9.50	1.70	2.0	2471
UNDERGROUND MINE	BELL	W215438		365233	833745	B		13970	09/01/88	
3.30	38.80	54.00	7.20	77.30	5.20	1.10	7.30	1.90	4.0	2570
UNDERGROUND MINE	HARLAN	W215407		365238	831153	B		13790	09/01/88	
2.00	36.20	55.60	8.20	77.20	5.10	0.70	7.30	1.50	4.0	2759

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	HARLAN	W215403	365243	832704	B	13950	09/01/88				
1.80	38.20	55.00	6.80	77.30	5.30	1.40	7.70	1.50	5.0	2696	--
SURFACE MINE	BELL	W215552	365247	833517	B	13680	09/01/88				
3.50	36.60	55.50	7.90	76.90	5.10	2.20	6.20	1.70	3.5	2201	--
UNDERGROUND MINE	HARLAN	W215406	365248	831112	B	13540	09/01/88				
1.70	35.50	54.50	10.00	75.70	4.90	0.90	6.90	1.60	6.0	2804	--
SURFACE MINE	BELL	W214788	365255	833801	B	13420	09/01/88				
2.40	37.30	53.90	8.80	75.50	5.00	1.60	7.30	1.80	5.5	2624	--
MINE PORTAL	HARLAN	W215427	365305	831202	B	13980	09/01/88				
2.00	38.90	54.00	7.10	77.30	5.40	2.60	5.90	1.70	4.0	2084	--
SURFACE MINE	MCCREARY	W208202	365308	842539	B	13770	09/01/88				
3.80	38.50	55.10	6.40	76.00	5.20	2.40	8.10	1.90	5.0	2084	--
SURFACE MINE	BELL	W214789	365309	833750	B	13140	09/01/88				
2.10	35.90	52.90	11.20	73.50	5.10	0.70	7.80	1.70	5.0	2804	--
UNDERGROUND MINE	HARLAN	W214792	365311	830512	B	13340	09/01/88				
3.90	37.40	53.80	8.80	75.70	5.00	0.90	8.10	1.50	3.0	2723	--
UNDERGROUND MINE	HARLAN	W215426	365311	830526	B	13490	09/01/88				
1.80	34.70	55.00	10.30	74.70	4.90	0.70	7.90	1.50	4.0	2660	--
SURFACE MINE	BELL	W214783	365311	833805	B	14400	09/01/88				
2.40	38.90	57.60	3.50	80.60	5.50	1.20	7.40	1.80	6.0	2138	--
SURFACE MINE	BELL	W214782	365312	833802	B	13000	09/01/88				
2.10	38.10	50.10	11.80	71.70	4.90	3.60	6.50	1.50	4.0	2183	--
SURFACE MINE	MCCREARY	W214781	365319	842423	B	13570	09/01/88				
3.20	35.90	56.80	7.30	76.20	5.00	1.60	8.10	1.80	5.0	2588	--
UNDERGROUND MINE	HARLAN	W215405	365321	830654	B	14320	09/01/88				
1.80	38.00	57.10	4.90	80.30	5.40	1.10	6.60	1.70	6.0	2804	--
ROAD CUT	KNOX	W212502	365333	835314	B	14680	09/01/88				
3.20	39.70	57.90	2.40	82.00	5.40	0.80	7.60	1.80	3.5	2318	--
SURFACE MINE	KNOX	W213118	365344	840215	B	14870	09/01/88				
3.30	37.80	60.90	1.30	83.30	5.50	0.60	7.40	1.90	3.5	2417	--
SURFACE MINE	BELL	W215550	365350	833336	B	14400	09/01/88				
5.70	37.70	57.80	4.50	80.50	5.30	0.90	7.20	1.60	5.0	2678	--

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
SURFACE MINE			BELL		W215545	1.00	8.50	365354	833349	B	12990	09/01/88	
4.10	35.80	53.20	11.00	73.30	4.70	2.30	1.50	365401	833347	B	1.0	2804	
SURFACE MINE			BELL		W215551								
3.40	38.60	48.60	12.80	71.90	5.10	2.30	6.40				12940	09/01/88	
SURFACE MINE			KNOX		W214773	0.60	8.00	365408	840333	B	14540	09/01/88	
5.20	37.40	60.40	2.20	81.90	5.30	0.80	2.00				3.5	2399	
SURFACE MINE			KNOX		W205329			365414	835227	B	14590	09/01/88	
3.10	37.80	60.50	1.70	82.10	5.30	0.80	8.00				4.0	2210	
SURFACE MINE			KNOX		W214778	5.00	6.10	365419	835518	B	13390	09/01/88	
3.60	38.70	52.60	8.70	73.50	4.80	1.70	1.90				4.0	2219	
SURFACE MINE			KNOX		W205331	0.90	6.80	365424	835226	B	14330	09/01/88	
3.30	39.80	55.20	5.00	79.50	5.80	0.90	2.00				4.5	2570	
SURFACE MINE			BELL		W215435			365438	833050	B	12430	09/01/88	
2.80	35.00	49.20	15.80	69.60	4.80	1.70	6.60				4.0	2759	
ROAD CUT			KNOX		W213009	5.00	3.60	365457	835522	B	12920	09/01/88	
3.10	40.50	47.00	12.50	71.50	5.00	3.60	5.70				4.0	2093	
SURFACE MINE			HARLAN		W215562			365521	832015	B	12860	09/01/88	
2.60	38.60	48.50	12.90	70.60	5.00	3.60	6.60				4.0	2219	
SURFACE MINE			HARLAN		W215560	4.70	3.10	6.90	365522	832012	B	12450	09/01/88
3.30	35.90	49.20	14.90	69.10	5.30	2.40	1.30				4.0	2561	
SURFACE MINE			HARLAN		W215563	5.30	3.80	365522	832015	B	13620	09/01/88	
2.30	41.90	49.80	8.30	74.70	5.00	1.70	6.50				4.0	2084	
UNDERGROUND MINE			BELL		W215437			365530	833216	B	14090	09/01/88	
2.10	39.20	53.40	7.40	77.10	5.30	2.40	6.00				5.5	2219	
SURFACE MINE			KNOX		W214790	5.00	1.70	7.00	365549	833530	B	13330	09/01/88
2.20	37.60	52.50	9.90	74.80	5.00	1.70	7.00				4.5	2507	
SURFACE MINE			LESLIE		W214262	4.90	3.10	6.60	365718	833001	B	12890	09/01/88
2.60	38.00	49.40	12.60	71.20	4.60	0.60	1.60				5.5	2273	
SURFACE MINE			LESLIE		W213017			365759	831739	B	13110	09/01/88	
4.40	35.60	53.60	10.80	74.10	4.60	0.60	8.40				1.0	2759	
SURFACE MINE			LESLIE		W213018			365800	831741	B	13900	09/01/88	
4.40	41.30	52.90	5.80	78.30	5.30	1.10	7.90				2.0	2228	

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Voltiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Latitude	Longitude	Rank	Htg Val.	Htg. Swell	Last Chg	Hemi Temp
SURFACE MINE	4.90	32.30	55.50	LESLIE	73.30	4.60	0.50	8.00	1.40	365804	831713	B	12780	1.0	09/01/88 2804	
SURFACE MINE	3.20	35.20	42.90	LESLIE	63.20	4.50	1.70	7.30	1.40	W213019	831746	B	11290	1.5	09/01/88 2678	
SURFACE MINE	3.00	36.90	52.60	LESLIE	73.20	5.00	1.80	8.00	1.50	W213116	831745	B	13160	3.5	09/01/88 2624	
SURFACE MINE	3.40	38.20	46.30	LESLIE	68.20	4.70	2.20	8.10	1.30	W213021	831759	B	12180	5.5	09/01/88 2498	
UNDERGROUND MINE	2.40	37.40	51.70	LESLIE	73.90	5.10	1.60	6.60	1.90	W213025	831737	B	13190	5.5	09/01/88 2750	
SURFACE MINE	2.50	38.00	57.10	4.90	79.40	5.30	1.50	6.80	2.10	W212091	840309	B	14260	5.0	09/01/88 2480	
DRILL CORE	2.90	39.30	55.50	KNOX	5.20	78.60	5.40	2.00	6.80	W213931	835047	B	14120	4.5	09/01/88 2129	
SURFACE MINE	8.10	30.30	55.80	LESLIE	69.30	4.20	0.40	10.90	1.30	W213125	831618	B	11930	0.5	09/01/88 2804	
SURFACE MINE	1.70	37.40	54.00	LAUREL	75.80	5.10	3.80	5.10	1.50	W215396	840051	B	13680	6.0	09/01/88 2084	
SURFACE MINE	4.20	33.60	60.10	LESLIE	6.30	79.00	5.00	0.50	7.70	W213123	831557	B	13840	1.5	09/01/88 2516	
UNDERGROUND MINE	2.20	35.40	53.50	CLAY	11.10	73.70	4.80	1.50	7.30	W213016	833118	B	13170	6.5	09/01/88 2696	
SURFACE MINE	3.30	39.40	51.90	LAUREL	8.70	76.00	5.10	1.70	6.60	W214777	835807	B	13580	4.0	09/01/88 2228	
SURFACE MINE	1.20	39.00	54.70	LESLIE	6.30	77.00	5.40	4.00	6.40	W189940	832134	B	13970	5.0	09/01/88 2174	
SURFACE MINE	2.60	31.80	56.20	CLAY	5.00	80.60	5.30	0.60	6.80	W213014	833846	B	14300	5.0	09/01/88 2804	
SURFACE MINE	2.90	37.30	49.80	CLAY	12.90	72.10	5.00	1.70	6.70	W213012	833849	B	12870	5.5	09/01/88 2372	
SURFACE MINE	2.60	35.70	43.60	CLAY	20.70	65.00	4.50	1.80	6.60	W213013	833844	B	11650	2.0	09/01/88 2687	

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
SURFACE MINE 4.40	32.50	55.00	12.50	CLAY	73.40	4.80	0.90	W213121	370158 6.90	833902 1.50	B	13000	09/01/88	
SURFACE MINE 2.40	39.60	49.70	10.70	CLAY	74.30	5.00	1.30	W213015	370158 6.90	833904 1.80	B	13220	09/01/88	
SURFACE MINE 2.80	35.70	56.90	7.40	CLAY	78.50	5.10	0.70	W213122	370227 6.70	833557 1.60	B	13990	09/01/88	
SURFACE MINE 2.60	37.70	55.10	7.20	CLAY	77.30	5.20	1.00	W213941	370245 7.50	833549 1.80	B	13650	09/01/88	
SURFACE MINE 2.70	33.60	52.90	13.50	LETCHER	73.30	4.90	1.00	W215554	370327 5.80	824420 1.50	B	13120	09/01/88	
SURFACE MINE 2.30	33.10	51.50	15.40	LETCHER	71.30	4.80	1.40	W215555	370328 5.60	824420 1.50	B	12740	09/01/88	
SURFACE MINE 2.60	33.80	54.40	11.80	LETCHER	74.80	4.90	1.60	W215553	370330 5.50	824425 1.60	B	13350	09/01/88	
UNDERGROUND MINE 2.40	34.40	58.00	7.60	LETCHER	79.00	5.00	1.30	W215556	370331 5.70	824338 1.40	B	14090	09/01/88	
1.90	35.00	48.90	16.10	LESLIE	68.30	5.00	1.10	W189757	370334 8.30	832017 1.20	B	7.5	2759	
2.00	34.80	51.40	13.80	LESLIE	70.80	5.00	2.20	W189758	370335 7.00	832113 1.20	B	12250	09/01/88	
UNDERGROUND MINE 2.10	36.40	56.20	7.40	PERRY	78.30	5.20	0.80	W212761	370615 6.50	830623 1.80	B	13880	09/01/88	
DRILL CORE 2.70	37.20	56.10	6.70	LESLIE	77.90	5.30	0.60	W211525	370729 7.90	832043 1.60	B	4.5	2759	
SURFACE MINE 5.40	40.60	53.00	6.40	LAUREL	77.10	5.20	1.40	W213011	370734 8.30	841428 1.60	B	13920	09/01/88	
SURFACE MINE 4.30	39.20	56.20	4.60	LAUREL	79.10	5.50	1.50	W213947	370752 7.10	840901 2.20	B	3.0	2804	
ROAD CUT 3.00	38.60	53.90	7.50	CLAY	75.20	5.20	1.90	W207461	370831 8.40	834608 1.80	B	14130	09/01/88	
SURFACE MINE 3.80	34.70	51.70	13.60	LESLIE	71.30	4.70	1.30	W214261	370837 7.70	831548 1.40	B	13750	09/01/88	
													5.0	2237
													2.5	2192
													2.5	2768

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Location	Moisture	Volatile	Fxd Cahn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	3.60	41.00	57.20	1.80	81.40	W212501	370841	841001	B	14480	09/01/88
							8.00	2.10		5.0	2273
SURFACE MINE	3.20	41.30	51.30	7.40	75.20	W207471	370844	840120	B	13780	09/01/88
							7.70	1.70		4.0	2237
SURFACE MINE	2.80	41.40	49.70	8.90	73.40	W212500	370845	840956	B	13360	09/01/88
							4.00	7.10		4.0	2120
SURFACE MINE	2.70	36.50	46.70	16.80	66.60	W207898	370853	830827	B	12180	09/01/88
							4.60	5.50		5.0	2147
SURFACE MINE	3.50	40.60	52.90	6.50	75.10	W207469	370901	840117	B	13890	09/01/88
							5.40	4.40		4.0	2156
ROAD CUT	3.30	38.90	52.90	8.20	73.30	W210347	370921	841908	B	13260	09/01/88
							5.00	7.00		2.5	2111
SURFACE MINE	2.20	36.10	54.20	9.70	74.80	W209667	370923	825306	B	13480	09/01/88
							5.40	0.70		5.5	2804
ROAD CUT	3.20	39.20	53.50	7.30	74.00	W210346	370935	842025	B	13570	09/01/88
							5.30	2.40		4.5	2048
SURFACE MINE	2.40	32.90	51.60	15.50	71.10	W209674	371010	825735	B	12530	09/01/88
							4.70	0.70		1.5	2804
SURFACE MINE	2.40	32.60	57.70	9.70	75.20	W209671	371015	825815	B	13320	09/01/88
							4.80	1.00		3.0	2741
SURFACE MINE	2.10	35.20	50.20	14.60	70.10	W209673	371017	825815	B	12670	09/01/88
							5.00	0.80		4.0	2804
PROSPECT PIT	2.80	40.10	47.90	12.00	71.90	W205327	371026	8346223	B	13060	09/01/88
							5.40	3.00		4.5	2318
SURFACE MINE	2.80	36.10	54.10	9.80	75.40	W214774	371039	835148	B	13460	09/01/88
							5.00	0.70		5.0	2804
SURFACE MINE	5.30	38.90	56.80	4.30	79.90	W213941	371039	841156	B	14260	09/01/88
							5.30	2.10		3.5	2039
SURFACE MINE	2.50	36.50	56.80	6.70	78.00	W210294	371048	834709	B	13920	09/01/88
							5.30	0.70		4.5	2804
UNDERGROUND MINE	2.60	39.90	54.60	5.50	78.80	W208196	371053	824747	B	14210	09/01/88
							5.40	2.00		5.0	2624

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Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND MINE	3.30	39.80	50.30	9.90	LAUREL	5.10	4.40		W207468	371109	840416	B	13240	09/01/88
										8.00	1.70		3.0	2057
UNDERGROUND MINE	2.20	40.20	46.60	13.20	LESLIE	5.00	3.20	6.30	W213026	371137	832231	B	12780	09/01/88
										1.50			4.0	2462
SURFACE MINE	3.40	35.80	58.50	5.70	CLAY	5.10	0.50		W205337	371146	834442	B	14200	09/01/88
										7.70	1.90		5.5	2804
SURFACE MINE	3.80	38.80	55.00	6.20	LAUREL	5.70	1.60		W207464	371209	840216	B	13980	09/01/88
										7.10	1.90		3.5	2291
SURFACE MINE	5.80	36.20	59.00	4.80	LAUREL	5.70	0.70	11.60	W207466	371210	840020	B	13710	09/01/88
										1.90			1.0	2237
SURFACE MINE	2.30	38.60	55.50	5.90	LETCHER	5.30	0.80		W209668	371233	825053	B	14060	09/01/88
										7.70	1.70		5.0	2804
SURFACE MINE	10.60	36.80	59.30	3.90	LAUREL	4.60	0.70	15.90	W207465	371234	840254	B	12610	09/01/88
										1.90			0.0	2336
SURFACE MINE	3.90	38.30	58.20	3.50	LETCHER	5.10	0.80		W209669	371235	824726	B	13380	09/01/88
										8.20	1.80		4.5	2804
SURFACE MINE	3.10	36.30	54.20	9.50	LETCHER	5.40	0.80		W207463	371244	840154	B	14430	09/01/88
										11.60	2.00		5.0	2363
SURFACE MINE	2.20	38.70	53.10	8.20	PERRY	5.10	1.20		W212592	371257	831538	B	13610	09/01/88
										8.10	1.60		3.0	2570
UNDERGROUND MINE	2.00	32.70	47.60	19.70	LETCHER	6.40	4.50	0.70	W210261	371310	824617	B	11630	09/01/88
										7.30	1.40		3.5	2804
SURFACE MINE	5.20	40.10	55.30	4.60	CLAY	5.40	0.80		W214260	371312	835557	B	14270	09/01/88
										7.70	2.10		3.5	2804
SURFACE MINE	4.20	37.40	57.50	5.10	LAUREL	5.40	2.00	7.60	W207467	371318	840456	B	14060	09/01/88
										1.90			5.5	2318
UNDERGROUND MINE	2.30	35.90	56.70	7.40	PERRY	4.90	1.00		W212593	371321	831607	B	13670	09/01/88
										8.00	1.70		2.0	2804
UNDERGROUND MINE	4.10	38.90	56.80	4.30	CLAY	5.20	0.60		W205338	371330	834332	B	14570	09/01/88
										7.40	2.00		5.5	2804
SURFACE MINE	3.80	37.20	55.00	7.80	PERRY	5.30	0.70		W207447	371331	831126	B	13630	09/01/88
										8.00	1.60		2.0	2777

## Coal Field Information Printout for: KY - Kentucky

Location	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Free Swell	Hardgrove	Last Chg
Moisture	Volatiles	Frd Crbn	Ash	Oxygen		Nitrogen						Hemi Temp
ROAD CUT 8.70	33.20	48.50	18.30	62.70	4.2L	1.00	371337	B	10790	0.0	09/01/88	2102
ROAD CUT 4.90	36.50	51.90	11.60	71.70	5.10	1.20	371344	B	12970	1.5	09/01/88	2804
SURFACE MINE 3.80	34.80	51.00	14.20	70.00	4.50	0.60	371355	B	12290	1.0	09/01/88	
ROAD CUT 2.70	38.20	43.90	17.90	65.60	4.90	3.70	371359	B	12020	5.0	09/01/88	2120
SURFACE MINE 3.70	31.30	56.90	11.80	74.70	4.60	0.60	371413	B	12970	1.0	09/01/88	2804
ROAD CUT 3.10	34.30	51.50	14.20	70.70	4.70	0.50	371431	B	12690	3.0	09/01/88	
UNDERGROUND MINE 2.30	36.60	60.00	3.40	81.90	5.40	0.60	371512	B	14730	6.0	09/01/88	2471
ROAD CUT 2.70	37.70	54.90	7.40	76.80	5.20	0.90	371513	B	123104	1.50	09/01/88	2804
UNDERGROUND MINE 1.90	30.30	52.70	17.00	69.30	4.60	0.70	371514	B	123405	1.40	09/01/88	
UNDERGROUND MINE 1.80	33.60	49.60	16.80	69.00	4.70	1.00	371642	B	12210	3.0	09/01/88	2804
ROAD CUT 3.30	36.10	54.50	9.40	75.40	4.90	0.60	371708	B	13710	3.5	09/01/88	
UNDERGROUND MINE 1.70	34.70	51.40	13.90	72.60	4.90	0.80	371714	B	12450	5.5	09/01/88	2750
SURFACE MINE 4.30	40.30	56.30	3.40	81.10	5.50	0.90	371718	B	14560	4.0	09/01/88	2804
ROAD CUT 2.10	34.60	63.30	2.10	83.30	5.40	0.70	371725	B	14800	5.0	09/01/88	2561
ROAD CUT 1.80	36.70	58.00	5.30	80.20	5.40	0.90	371727	B	14330	7.0	09/01/88	2804
ROAD CUT 2.00	34.10	60.40	5.50	80.10	5.10	0.80	371732	B	14110	5.0	09/01/88	2804

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Oxygen	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND MINE	1.90	33.60	53.20	13.20	FLOYD	71.40	4.90	0.70	8.20	371733	824216	B	12930	09/01/88
PROSPECT PIT	4.10	33.70	46.80	19.50	OWNSLEY	65.30	4.80	1.90	7.00	371735	833309	B	4.0	2741
SURFACE MINE	1.50	36.10	58.60	5.30	PIKE	80.10	5.10	0.90	7.00	371739	822513	B	14310	09/01/88
SURFACE MINE	1.70	32.20	55.10	12.70	PIKE	74.40	4.60	0.80	6.10	371740	822519	B	7.0	2804
DRILL CORE, HOLE NO 30	1.80	42.60	43.90	13.50	PERRY	70.30	5.30	2.80	6.50	371742	831218	B	13100	09/01/88
SURFACE MINE	6.70	35.90	61.70	2.40	LAUREL	82.40	5.10	0.70	7.60	371747	840702	B	14540	09/01/88
UNDERGROUND MINE	1.80	30.00	59.40	10.60	PIKE	76.20	4.70	0.40	6.70	371759	822548	B	4.0	2651
ROAD CUT	3.10	35.70	55.30	9.00	PERRY	76.10	5.00	0.60	7.60	371808	831133	B	13480	09/01/88
UNDERGROUND MINE	4.60	37.10	54.70	8.20	PERRY	76.30	5.10	0.80	7.80	371813	831228	B	3.5	2660
UNDERGROUND MINE	1.50	34.10	59.80	6.10	PIKE	80.40	5.10	0.70	6.30	371815	822535	B	3.0	2804
DRILL CORE, HOLE NO 30	1.20	27.90	49.00	23.10	PERRY	64.20	4.20	2.50	4.70	371842	821842	B	11720	09/01/88
SURFACE MINE	1.40	43.60	52.10	4.30	PERRY	79.00	5.60	2.70	6.90	371846	831218	B	14280	09/01/88
SURFACE MINE	2.90	37.60	51.50	10.90	KNOTT	73.30	4.90	1.50	7.80	371851	830113	B	13150	09/01/88
SURFACE MINE	6.10	37.70	55.40	6.90	PERRY	76.80	5.30	0.70	8.60	371859	831623	B	13630	09/01/88
UNDERGROUND MINE	1.50	26.20	48.10	25.70	PIKE	63.60	4.10	0.70	4.50	821805	831004	B	3.0	2804
ROAD CUT	3.60	34.30	48.40	17.30	PERRY	65.50	4.50	3.60	7.40	371911	831004	B	12030	09/01/88

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	KNOTT	W205326		371920	830304	B		13110	09/01/88		
4.40	36.90	52.20	10.90	73.30	5.20	0.60	8.30	1.70		2.5	2804
ROAD CUT	PERRY	W208065		371927	830939	B		13380	09/01/88		
5.10	35.60	55.20	9.20	74.60	5.10	0.60	8.80	1.70		2.0	2804
ROAD CUT	PERRY	W208060		371953	830937	B		13120	09/01/88		
4.00	35.50	53.30	10.20	74.00	5.00	0.70	8.40	1.70		1.5	2804
ROAD CUT	PERRY	W205059		372008	830917	B		14000	09/01/88		
3.30	45.10	48.70	6.20	77.00	5.60	2.00	7.60	1.60		4.5	2102
UNDERGROUND MINE	PERRY	W205320		372020	832313	B		12870	09/01/88		
6.00	38.10	52.20	9.70	73.90	5.10	0.50	8.90	1.90		1.0	2651
ROAD CUT	KNOTT	W208432		372028	825902	B		12510	09/01/88		
2.10	33.70	50.50	15.80	69.60	4.80	1.20	7.20	1.40		4.5	2804
ROAD CUT	KNOTT	W208430		372037	825905	B		13860	09/01/88		
2.00	40.20	51.90	7.90	76.80	5.50	0.60	7.50	1.70		5.5	2804
UNDERGROUND MINE	KNOTT	W210266		372044	824738	B		13480	09/01/88		
1.80	37.80	51.60	10.60	75.30	5.30	0.70	6.70	1.40		4.0	2714
SURFACE MINE	PERRY	W205322		372051	830856	B		11600	09/01/88		
4.00	33.70	46.60	19.70	66.00	4.60	0.60	7.50	1.60		1.0	2804
PORTAL	FLOYD	W210319		372052	824302	B		13190	09/01/88		
3.40	34.40	56.10	9.50	75.10	4.90	0.80	8.20	1.50		1.5	2651
UNDERGROUND MINE	PIKE	W209852		372104	823221	B		14320	08/01/88		
2.20	37.90	56.10	6.00	79.50	5.40	0.70	6.90	1.50		6.5	2597
SURFACE MINE	JACKSON	W213932		372106	835535	B		14570	09/01/88		
4.70	38.00	59.50	2.20	82.10	5.40	0.80	7.70	1.80		4.0	2254
DRILL CORE, HOLE NO 40	PERRY	W214785		372107	832022	B		13960	08/01/88		
2.10	43.90	50.10	6.00	77.00	5.50	3.00	6.70	1.80		4.0	2102
SURFACE MINE	PERRY	W207986		372128	831733	B		12740	09/01/88		
5.30	33.90	52.80	13.30	71.30	4.70	0.70	8.50	1.50		1.5	2804
SURFACE MINE	PERRY	W207987		372128	831739	B		12810	09/01/88		
6.20	36.00	52.90	11.10	72.10	4.80	0.76	9.70	1.60		1.0	2372
ROAD CUT	KNOTT	W208428		372129	825901	B		11820	09/01/88		
1.80	35.40	45.00	19.60	66.10	4.60	1.00	7.30	1.40		3.5	2804

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number			Latitude	Longitude	Rank	Htg Val	Last Chg	
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
ROAD CUT 3.20	KNOTT	W208095	5.10	1.40	372131	825857	B	12.00	09/01/88	
ROAD CUT 2.40	KNOTT	W208206	4.30	3.50	372131	830145	B	10490	09/01/88	
ROAD CUT 3.00	KNOTT	W208429	5.00	1.90	372138	825929	B	4.0	2651	
SURFACE MINE 6.00	PERRY	W207991	4.50	0.60	372143	831721	B	13250	09/01/88	
SURFACE MINE 5.30	PERRY	W207989	5.40	1.10	9.10	1.40		5.5	2516	
SURFACE MINE 4.30	OMSLEY	W205324	5.50	0.80	372146	834415	B	11530	09/01/88	
ROAD CUT 2.70	KNOTT	W208096	4.90	3.30	372153	825830	B	14280	09/01/88	
ROAD CUT 2.20	KNOTT	W208066	4.00	3.40	372158	830624	B	12050	09/01/88	
SURFACE MINE 4.40	BREATHITT	W205321	5.70	0.70	8.10	1.90		3.5	2804	
ROAD CUT 1.90	KNOTT	W208205	4.20	1.90	372201	832908	B	9980	09/01/88	
ROAD CUT 1.60	KNOTT	W208098	3.50	3.00	372213	830354	B	14130	09/01/88	
UNDERGROUND MINE 2.20	FLOYD	W210317	4.90	0.60	8.10	2.00		4.5	2723	
ROAD CUT 1.90	PIKE	W210164	5.30	1.70	6.30	1.30		4.0	2777	
UNDERGROUND MINE 2.70	KNOTT	W210265	5.20	0.90	372219	825818	B	8490	09/01/88	
SURFACE MINE 6.00	JACKSON	W207869	5.50	0.60	372245	823948	B	13370	09/01/88	
DRILL CORE, HOLE NO 50 2.90	KNOTT	W215672	4.60	1.10	372309	823325	B	13660	09/01/88	
								7.0	2309	
								3.5	2552	
								3.5	2444	
								3.5	2804	

Coal Field Information Printout for: KY - Kentucky

Location	Volatile	Pnd Crbn	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture		Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE		PERRY		W211684	372349	830934	B	12640	09/01/88
2.00	38.50	48.60	12.90	70.80	4.90	2.40	7.50	1.50	4.0
UNDERGROUND MINE		FLOYD		W211630	372435	823340	B	13460	09/01/88
2.20	37.90	53.50	8.60	75.10	5.10	3.30	6.30	1.60	5.5
SURFACE MINE		KNOTT		W211621	372440	830620	B	12440	09/01/88
2.70	34.30	51.00	14.70	70.70	4.60	0.80	7.60	1.60	1.5
SURFACE MINE		ROCKCASTLE		W214259	372443	841233	B	13170	09/01/88
10.50	36.20	56.80	7.00	76.70	4.80	0.50	9.50	1.50	1.5
SURFACE MINE		OWSLEY		W212759	372452	833646	B	13020	09/01/88
2.50	36.30	52.30	11.40	72.60	5.00	2.00	7.10	1.90	4.5
SURFACE MINE		OWSLEY		W212758	372454	833636	B	14030	09/01/88
2.30	41.20	52.80	6.00	76.20	5.30	3.30	7.30	1.90	4.0
SURFACE MINE		PIKE		W211693	372455	823210	B	14460	09/01/88
1.80	38.20	57.70	4.10	81.30	5.4	0.50	7.10	1.60	4.5
SURFACE MINE		OWSLEY		W212760	372455	833646	B	13430	09/01/88
1.90	38.70	51.70	9.60	74.60	5.10	2.50	6.40	1.80	4.0
		BREATHITT		W190664	372458	833152	B	14030	09/01/88
2.50	39.30	55.40	5.30	77.90	5.60	1.30	8.20	1.70	3.0
PROSPECT		OWSLEY		W209508	372502	834256	B	12840	09/01/88
4.80	35.30	55.00	9.70	72.50	5.00	1.10	9.60	2.10	1.0
		BREATHITT		W189755	372512	833646	B	14070	09/01/88
2.20	40.50	53.80	5.70	77.00	5.60	3.20	7.30	1.20	4.0
ROAD CUT		KNOTT		W208099	372523	825538	B	9900	09/01/88
3.10	30.70	38.80	30.50	55.90	4.10	0.80	7.50	1.20	1.5
SURFACE MINE		PIKE		W212088	372638	823432	B	13800	09/01/88
2.00	41.30	50.90	7.80	76.60	5.30	2.60	5.90	1.80	4.0
ROAD CUT		KNOTT		W208102	372656	825414	B	10900	09/01/88
3.00	33.30	41.50	25.20	60.80	4.30	1.40	6.90	1.40	5.0
PROSPECT		BREATHITT		W209506	372704	833258	B	12830	09/01/88
1.80	37.00	50.10	12.90	70.60	4.90	3.20	6.60	1.80	3.5
ROAD CUT		KNOTT		W209503	372706	825356	B	11890	09/01/88
3.80	34.30	50.10	15.60	67.70	4.70	0.70	9.50	1.80	1.0
									2804

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Frd Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen	Hardgrove	Free Swell	Hemi Temp		
ROAD CUT	2.40	38.70	49.00	KNOTT	12.30	71.30	5.20	3.20	W209301	372707	825356	B	12880	09/01/88
										6.20	1.80		4.5	2192
SURFACE MINE	2.20	32.20	44.90	PIKE	22.90	63.30	4.50	1.10	W210158	372711	822907	B	11370	09/01/88
										6.80	1.40		2.0	2597
SURFACE MINE	2.00	38.70	57.90	PIKE	3.40	81.10	5.40	1.30	W210157	372712	822905	B	14470	09/01/88
										7.10	1.70		5.0	2237
SURFACE MINE	1.60	42.60	48.30	PIKE	9.10	73.20	5.40	5.20	W210156	372715	822906	B	13550	09/01/88
										5.60	1.50		3.0	2093
SURFACE MINE	2.20	37.50	58.20	PIKE	4.30	80.50	5.40	0.80	W210155	372721	822848	B	14380	09/01/88
										7.30	1.70		5.0	2804
SURFACE MINE	3.30	35.70	58.30	FLOYD	6.00	78.50	4.90	0.60	W211692	372722	823522	B	13730	09/01/88
										8.30	1.70		1.5	2804
SURFACE MINE	2.50	42.00	48.40	BREATHITT					W211610	372750	831113	B	13510	09/01/88
										5.50	0.80		1.5	2804
SURFACE MINE	2.30	36.30	49.60	OWSLEY	14.10	70.30	5.10	1.40	W189756	372758	833252	B	12520	09/01/88
										7.80	1.30		3.0	2912
SURFACE MINE	3.00	38.00	56.80	OWSLEY	5.20	78.10	5.30	1.80	W209307	372807	833906	B	14140	09/01/88
										7.30	2.30		4.0	2642
ROAD CUT	4.20	38.60	56.50	FLOYD	4.90	79.10	5.40	0.70	W209101	372813	825105	B	14170	09/01/88
										5.10	1.80		5.0	2381
SURFACE MINE	2.70	34.60	57.90	PIKE	7.50	77.50	4.90	1.10	W212053	372821	820703	B	13590	09/01/88
										7.40	1.60		2.5	2444
ROAD CUT	2.50	42.40	48.20	FLOYD	9.40	75.20	5.50	0.70	W208100	372825	825058	B	13680	09/01/88
										7.60	1.60		1.5	2777
SURFACE MINE	5.70	39.40	56.20	PIKE	4.40	78.70	4.80	0.60	W212065	372832	820702	B	13570	09/01/88
										10.00	1.50		2.0	2246
SURFACE MINE	1.50	31.60	53.50	PIKE	14.90	72.40	4.50	1.00	W212066	372838	820716	B	12840	09/01/88
										5.80	1.40		6.0	2804
ROAD CUT	2.10	42.20	52.10	FLOYD	5.70	76.80	5.50	3.60	W209504	372851	825011	B	14060	09/01/88
										5.70	1.70		3.5	1994
SURFACE MINE	3.20	37.20	57.80	KNOTT	5.00	78.50	4.80	0.60	W210259	372855	830245	B	13750	09/01/88
										9.60	1.50		1.5	2804

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Fxd Crmn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Hemi Temp
SURFACE MINE	3.50	39.70	55.80	4.50	JACKSON	W210255	372501	835338	B	13830	09/01/88 2138
UNDERGROUND MINE	1.60	34.50	55.20	10.30	75.90	W208208	372903	822207	B	13490	09/01/88 2804
SURFACE MINE	2.00	34.00	58.80	7.20	80.40	W212059	372904	820435	B	14210	09/01/88 2804
SURFACE MINE	1.30	35.50	60.70	3.80	82.80	W212060	372904	820543	B	14740	09/01/88 2777
SURFACE MINE	1.40	34.70	59.20	6.10	80.60	W212061	372905	820527	B	14350	09/01/88 2804
ROAD CUT	3.10	34.30	46.40	19.30	65.60	W208197	372915	824922	B	11650	09/01/88 2804
ROAD CUT	3.30	40.00	49.20	10.80	72.10	W208104	372920	824922	B	13080	09/01/88 2057
UNDERGROUND MINE	2.30	39.70	53.30	7.00	76.50	W210316	372953	824316	B	13770	09/01/88 2138
SURFACE MINE	4.10	37.90	59.60	2.50	80.20	W211631	372959	834926	B	14130	09/01/88 2633
CONGLETON BROS MINE	6.80	37.30	51.10	11.60	71.30	D176684	373000	834500	B	12710	09/01/88 2579
SURFACE MINE	3.50	39.00	46.10	14.90	68.30	W213949	373012	833512	B	12420	09/01/88 2192
SURFACE MINE	3.60	36.00	53.00	11.00	73.60	W211617	373035	830832	B	12760	09/01/88 2804
SURFACE MINE	5.00	37.60	60.30	2.10	80.60	W210253	373035	834742	B	14250	09/01/88 2579
UNDERGROUND MINE	2.50	37.90	52.50	9.60	74.30	W210315	373045	824219	B	13230	09/01/88 2723
SURFACE MINE	1.80	32.70	62.10	5.20	81.90	W210431	373054	820955	B	14460	09/01/88 2804
PROSPECT	2.60	31.20	51.70	17.10	69.60	W210430	373054	821022	B	12060	09/01/88 2504

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Frd Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
PROSPECT	1.40	36.10	57.10	6.80	78.90	5.30	0.80	6.50	373055	821021	B	14120	09/01/88 2804
PROSPECT	2.00	37.70	54.30	8.00	77.90	5.30	1.60	5.30	373058	821021	B	13950	09/01/88 2309
SURFACE MINE	2.00	45.20	48.50	6.30	75.80	5.40	3.90	7.00	373115	823032	B	14010	09/01/88 2147
SURFACE MINE	4.10	33.80	55.40	10.80	73.30	4.90	0.60	4.80	373115	840514	B	12900	09/01/88 2804
SURFACE MINE	5.20	36.50	55.40	8.10	76.00	5.10	0.70	8.50	373117	831140	B	13270	09/01/88 2804
SURFACE MINE	2.70	37.60	58.60	3.80	81.20	5.40	0.80	7.10	373118	823029	B	14340	09/01/88 2777
SURFACE MINE	3.80	38.60	54.20	7.20	77.20	5.00	0.70	8.40	373118	831117	B	13570	09/01/88 2804
SURFACE MINE	3.70	36.10	53.80	10.10	73.50	5.10	0.90	8.80	373120	831120	B	13070	09/01/88 2804
ROAD CUT	3.00	40.70	49.60	9.70	72.40	5.10	5.90	5.40	373121	824735	B	13300	09/01/88 2804
SURFACE MINE	3.70	37.70	54.50	7.80	75.90	5.20	1.80	7.50	373122	831120	B	13410	09/01/88 2505
SURFACE MINE	2.40	35.70	51.50	12.80	71.90	4.70	1.50	7.70	373123	830533	B	12670	09/01/88 2804
SURFACE MINE	3.60	41.70	51.50	6.80	74.70	5.30	3.10	8.30	373139	833907	B	13490	09/01/88 2102
UNDERGROUND MINE	3.30	33.20	47.00	19.80	65.40	4.60	1.90	7.10	373147	823852	B	11770	09/01/88 2678
ROAD CUT	2.00	38.10	49.70	12.20	72.10	5.00	1.60	7.60	373203	824706	B	12970	09/01/88 2741
UNDERGROUND MINE	3.60	34.80	50.40	14.80	69.60	4.80	0.80	8.50	373235	824021	B	12480	09/01/88 2804
SURFACE MINE	3.30	37.50	56.10	6.40	76.20	4.80	0.70	10.50	373236	830538	B	13390	09/01/88 2804

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatile Ash	Fxd Crbn	County	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
SURFACE MINE 6.90	34.30	58.10	BREATHITT 7.60	W210256 71.50	4.40 0.60	373245 14.40	B 1.50	12250 0.5	09/01/88 2804
PROSPECT 3.60	43.20	49.40	BREATHITT 7.40	W203630 76.50	4.80 2.00	831616 7.70	B 1.60	13690 3.0	09/01/88 2714
ROAD CUT 2.80	40.80	50.20	FLOYD 9.00	W208211 74.60	5.30 1.10	373248 8.10	B 1.90	13450 4.5	09/01/88 2804
SURFACE MINE 4.10	35.60	47.70	FLOYD 16.70	W208218 67.20	4.60 2.20	373251 7.70	B 1.60	12080 4.5	09/01/88 2804
SURFACE MINE 3.40	38.00	53.40	BREATHITT 8.60	W205317 73.70	5.30 0.80	373259 9.90	B 1.70	13250 1.5	09/01/88 0
PORTAL 3.40	36.60	50.60	MAGOFFIN 12.80	W209853 71.50	4.80 1.00	825650 8.60	B 1.30	12700 0.0	09/01/88 0
CONSTRUCTION SITE 4.30	36.80	49.80	PIKE 13.40	W215558 71.10	4.50 1.20	373329 8.40	B 1.40	12690 1.5	09/01/88 2804
CONSTRUCTION SITE 5.70	37.70	56.40	PIKE 5.90	W215559 78.50	5.00 0.80	373330 8.30	B 1.50	13860 2.0	09/01/88 2804
CONSTRUCTION SITE 5.50	34.20	51.60	PIKE 14.20	W215557 70.70	4.70 0.90	373330 8.20	B 1.30	12460 1.5	09/01/88 2804
SURFACE MINE 3.40	36.30	49.70	BREATHITT 14.00	W209874 69.70	4.80 0.70	373403 9.60	B 1.20	12470 1.0	09/01/88 2804
SURFACE MINE 4.20	37.10	51.40	BREATHITT 11.50	W209875 71.70	4.80 0.70	373409 9.80	B 1.50	12780 1.0	09/01/88 2804
ROAD CUT 3.60	39.60	54.40	LEE 6.00	W210152 75.90	5.20 2.50	373424 8.60	B 1.80	13650 2.5	09/01/88 2057
SURFACE MINE 3.00	37.50	55.90	PIKE 6.60	W212056 77.50	5.0C 0.60	373454 B.80	B 1.50	13710 2.0	09/01/88 2804
SURFACE MINE 3.60	36.10	57.60	PIKE 3.70	W212058 79.70	5.00 0.70	373459 9.30	B 1.60	14070 2.0	09/01/88 2759
ROAD CUT 5.10	38.30	57.60	LEE 4.10	W208675 77.70	5.30 0.60	373504 10.50	B 1.80	13H40 1.0	09/01/88 2606
ROAD CUT 3.30	36.80	53.60	FLOYD 9.60	W208214 74.80	5.20 0.80	373510 7.80	B 1.80	13380 5.0	09/01/88 2804

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
ROAD CUT	2.80	28.80	36.10	35.10	FLOYD	W208215	3.90	1.00	373513	B24601	B	9200	09/01/88	
ROAD CUT	2.10	45.00	41.50	13.50	FLOYD	W208213	5.30	5.00	373513	B24603	B	12730	09/01/88	
UNDERGROUND MINE	4.50	35.30	52.00	12.70	71.40	4.70	0.70	W207474	373536	B24309	B	12580	09/01/88	
SURFACE MINE	3.50	36.30	58.20	5.50	MAGOFFIN	W210503	5.10	0.70	373540	B24314	B	13550	09/01/88	
SURFACE MINE	3.70	37.10	50.10	12.80	MAGOFFIN	W210159	4.90	1.00	373606	B30732	B	12520	09/01/88	
UNDERGROUND MINE	1.90	35.30	54.00	10.70	PIKE	W209E76	5.10	0.50	373612	B22230	B	13230	09/01/88	
SURFACE MINE	5.80	35.70	54.40	9.90	MAGOFFIN	W210160	5.00	0.70	373654	B30722	B	12940	09/01/88	
SURFACE MINE	3.50	35.10	51.70	13.20	MAGOFFIN	W215545	4.70	0.80	373657	B30105	B	12580	09/01/88	
SURFACE MINE	3.70	36.30	49.90	13.80	MAGOFFIN	W215547	4.60	3.50	373700	B30107	B	12520	09/01/88	
SURFACE MINE	4.60	40.40	56.10	3.50	MAGOFFIN	W215548	5.40	0.80	373701	B30110	B	14380	09/01/88	
SURFACE MINE	3.40	37.00	44.60	18.40	MAGOFFIN	W215549	4.70	3.80	373705	B30110	B	11800	09/01/88	
NICKEL CONSTR CO STRIP MINE	15.70	37.20	44.30	18.50	LEE	D176683	4.60	2.50	373730	B33730	B	11100	09/01/88	
SURFACE MINE	5.20	38.40	59.90	1.70	BREATHITT	W214267	5.50	0.70	373740	B32723	B	14610	09/01/88	
SURFACE MINE	4.60	37.10	53.80	9.10	WOLFE	W214266	5.10	1.70	373744	B32824	B	13340	09/01/88	
SURFACE MINE	3.80	38.40	55.30	6.30	MAGOFFIN	W209662	5.20	0.70	373754	B25701	B	13620	09/01/88	
SURFACE MINE	3.20	37.40	51.00	11.60	MAGOFFIN	W209663	5.00	0.70	373759	B25659	B	12870	09/01/88	

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SURFACE MINE	3.30	38.30	53.80	PIKE		W211694	5.00	1.40	373806	822952	B	13430	09/01/88
ROAD CUT	1.90	32.90	54.90	PIKE	12.20	74.50	4.60	0.50	373845	821603	B	13140	09/01/88
ROAD CUT	2.10	36.70	57.90	PIKE		W215400	5.30	0.90	373849	821602	B	14200	09/01/88
UNDERGROUND MINE	3.60	36.30	56.80	PIKE	4.90	78.50	5.00	0.80	373924	822534	B	13750	09/01/88
UNDERGROUND MINE	2.80	34.00	56.60	PIKE	9.40	76.20	5.00	0.60	373927	822052	B	13470	09/01/88
SURFACE MINE	3.30	36.80	49.50	MAGOFFIN	13.70	69.60	4.90	1.00	373932	825931	B	12480	09/01/88
SURFACE MINE	3.20	37.20	50.20	MAGOFFIN	12.60	69.90	5.00	2.00	373933	825928	B	12610	09/01/88
SURFACE MINE	4.70	39.90	52.30	WOLFE	7.80	72.60	5.00	4.20	373958	833517	B	1.5	2417
PORTAL	3.60	39.90	50.80	FLOYD	9.30	70.70	5.10	2.30	374015	824523	B	13230	09/01/88
ROAD CUT	1.80	39.70	48.90	PIKE	11.40	71.20	5.00	5.90	374019	821653	B	13170	09/01/88
SURFACE MINE	3.40	34.90	49.60	MAGOFFIN	15.50	69.10	4.60	1.30	374019	831211	B	4.0	2156
SURFACE MINE	3.50	43.60	48.50	MAGOFFIN	7.90	74.50	5.40	2.00	374036	830334	B	12140	09/01/88
UNDERGROUND MINE	3.70	36.40	48.40	FLOYD	15.20	68.80	4.80	2.20	374038	824516	B	13510	09/01/88
UNDERGROUND MINE	3.80	38.30	45.90	FLOYD	15.80	68.00	4.90	2.90	374038	824517	B	12300	09/01/88
SURFACE MINE	6.50	39.60	54.90	MAGOFFIN	5.50	75.20	4.90	1.10	374040	830325	B	13350	09/01/88
SURFACE MINE	5.50	33.30	45.00	FLOYD	21.70	E2.60	4.40	0.70	374147	834524	B	11160	09/01/88

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatile Ash	County	Carbon	Hydrogen	Sulfur	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
	Fxd Crbn	Ash							Free Swell	Hemi Temp
PROSPECT 6.10	38.70	57.70	3.50	76.10	5.10	1.50	374219 11.70	833339 2.00	13300	09/01/88 2264
UNDERGROUND MINE 2.40	37.50	50.10	12.40	71.50	5.00	2.40	374226 7.20	822214 1.50	12860	09/01/88 2498
UNDERGROUND MINE 5.00	33.10	50.90	16.00	68.30	4.40	1.10	374233 8.80	823758 1.40	12100	09/01/88 2804
UNDERGROUND MINE 5.70	33.00	52.20	14.80	70.00	4.50	0.80	374233 8.50	823801 1.40	12310	09/01/88 2804
UNDERGROUND MINE 3.40	40.30	52.60	7.10	76.30	5.30	2.80	374244 6.90	822139 1.60	13780	09/01/88 2282
SURFACE MINE 3.40	29.50	43.80	26.70	59.10	3.90	1.30	374252 7.80	823329 1.20	10300	09/01/88 2804
UNDERGROUND MINE 3.40	36.10	54.90	9.00	74.30	4.70	1.10	374257 9.50	823721 1.40	13110	09/01/88 2804
SURFACE MINE 3.70	34.80	52.40	12.80	70.80	4.70	1.10	374310 9.10	823302 1.50	12530	09/01/88 2804
SURFACE MINE 3.00	38.60	57.00	4.40	78.60	5.10	0.60	374310 9.80	823447 1.50	13850	09/01/88 2804
SURFACE MINE 3.50	41.30	53.90	4.80	78.80	5.40	0.60	374310 9.10	824042 1.30	13960	09/01/88 2912
SURFACE MINE 3.50	35.90	48.40	15.70	68.50	4.30	2.30	374316 7.70	823155 1.40	12170	09/01/88 2543
UNDERGROUND MINE 2.80	34.30	50.70	15.00	69.30	4.70	0.90	374316 8.70	823443 1.40	12240	09/01/88 2804
UNDERGROUND MINE 2.40	33.40	39.90	26.70	58.20	4.20	4.10	374335 5.70	822145 1.10	10640	09/01/88 2480
UNDERGROUND MINE 2.10	37.70	54.30	8.00	75.90	5.20	1.20	374336 8.00	823049 1.70	13520	09/01/88 2696
CONSTRUCTION SITE 4.90	36.00	55.40	8.60	73.50	5.00	1.10	374404 10.20	833336 1.60	13120	09/01/88 2804
AUGER MINE 5.30	33.10	50.80	16.10	67.50	4.60	0.80	374444 9.40	822046 1.60	11930	09/01/88 2804

## Coal Field Information Printout for: KY - Kentucky

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	MARTIN	W211635	374503	822918	B	12300	09/01/88				
2.80	35.10	50.10	14.80	69.80	4.60	0.90	8.30	1.60	1.5	2804	
PROSPECT	MARTIN	W208051	374504	822010	B	11230	09/01/88				
10.70	31.20	53.00	15.80	65.10	4.00	0.70	13.10	1.30	0.0	2804	
SURFACE MINE	MARTIN	W211687	374506	822727	B	13310	09/01/88				
2.50	37.50	53.50	9.00	75.30	5.00	1.00	8.10	1.60	2.5	2804	
PROSPECT	MARTIN	W208054	374520	822002	B	13400	09/01/88				
4.20	37.70	52.80	9.50	74.80	5.00	0.70	8.30	1.70	3.5	2786	
SURFACE MINE	MARTIN	W208050	374526	822000	B	12770	09/01/88				
4.30	35.70	50.70	13.60	71.50	4.90	0.90	7.70	1.40	4.5	2804	
PROSPECT	MARTIN	W208053	374526	822005	B	14440	09/01/88				
5.00	36.90	60.00	3.10	80.30	5.30	0.70	8.90	1.70	3.0	2579	
SURFACE MINE	MARTIN	W208055	374526	822011	B	12770	09/01/88				
4.20	35.30	51.10	13.60	71.40	4.80	0.90	7.80	1.50	1.0	2804	
SURFACE MINE	MARTIN	W212504	374529	823211	B	11820	09/01/88				
4.10	34.20	49.50	16.30	67.80	4.40	1.10	9.00	1.40	1.5	2804	
PROSPECT	MARTIN	W208052	374535	821954	B	10090	09/01/88				
13.80	32.00	47.90	20.10	60.30	3.80	0.50	14.00	1.30	0.0	2804	
SURFACE MINE	MARTIN	W210262	374546	823826	B	13450	09/01/88				
3.70	37.60	56.30	6.10	76.60	4.90	1.40	9.50	1.50	1.5	2750	
SURFACE MINE	MARTIN	W210263	374552	823839	B	10970	09/01/88				
3.90	29.00	48.20	22.80	64.00	3.50	0.40	8.20	1.10	1.0	2504	
SURFACE MINE	MARTIN	W211634	374554	822756	B	12840	09/01/88				
3.00	35.40	53.00	11.60	73.00	4.60	0.60	8.80	1.40	1.5	2804	
SURFACE MINE	MARTIN	W212596	374556	822315	B	13370	09/01/88				
2.80	37.90	52.60	9.50	74.50	5.00	1.40	7.90	1.70	3.0	2804	
SURFACE MINE	JOHNSON	W203623	374629	824059	B	13520	09/01/88				
5.70	38.40	54.50	7.10	76.10	5.10	0.70	9.50	1.50	1.0	2660	
SURFACE MINE	MARTIN	W205332	374640	823610	B	11730	09/01/88				
5.70	33.00	48.50	18.50	66.60	4.70	0.60	8.10	1.50	1.0	2804	
ROAD CUT	WOLFE	W210433	374717	832059	B	13790	09/01/88				
3.70	40.60	54.90	4.50	77.00	5.30	2.10	9.20	1.90	1.5	2039	

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Oxygen	Nitrogen	Hardgrove					Free Swell	Hemi Temp
SURFACE MINE	4.00	39.60	52.30	8.10	75.20	5.10	1.00	9.50	W209395	374723	824258	B	13330	09/01/88
	2.60	29.70	36.30	34.00	52.40	4.00	1.80	6.60	W210293	374727	824302	B	9370	09/01/88
SURFACE MINE	1.90	37.20	54.90	7.90	76.80	5.00	1.80	6.80	W211637	374732	822123	B	13670	09/01/88
SURFACE MINE	3.30	39.20	49.50	11.30	71.00	5.00	3.60	7.10	W210432	374732	831947	B	12820	09/01/88
UNDERGROUND MINE	2.10	37.20	52.30	10.50	75.10	5.00	0.90	6.90	W211636	374749	822206	B	13230	09/01/88
ROAD CUT	4.60	42.90	52.40	4.70	77.00	5.30	2.80	8.40	W213950	374815	832025	B	13800	09/01/88
SURFACE MINE	3.50	35.20	59.40	5.40	77.60	5.00	0.80	9.60	W210501	374817	823220	B	13730	09/01/88
PROSPECT	3.40	35.10	53.50	11.40	71.80	4.70	0.70	9.90	W210502	374823	823228	B	12590	09/01/88
ROAD CUT	5.90	41.50	54.40	4.10	77.70	5.20	3.00	8.40	W213951	375020	831931	B	14020	09/01/88
SURFACE MINE	5.10	35.60	50.50	13.90	69.80	4.90	0.90	9.00	W207982	375027	823451	B	12480	09/01/88
SURFACE MINE	6.50	41.60	55.20	3.20	78.50	5.50	0.90	10.20	W209903	375101	831106	B	14030	09/01/88
SURFACE MINE	4.20	32.90	44.10	23.00	60.30	4.30	3.00	8.30	W209905	375102	831115	B	10850	09/01/88
SURFACE MINE	4.40	32.30	42.60	25.10	59.90	4.30	1.60	7.90	W209904	375104	831105	B	10610	09/01/88
MINE FACE	10.20	32.40	42.40	25.20	57.20	4.10	0.80	11.30	W205319	375255	824715	B	9970	09/01/88
SURFACE MINE	4.00	35.30	49.00	15.70	68.80	4.60	0.50	9.00	W210029	375318	823555	B	12160	09/01/88
UNDERGROUND MINE	5.80	39.10	51.00	9.90	72.60	5.30	-3.20	7.30	W205315	375321	825151	B	13060	09/01/88
													2.0	2057

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatile Ash	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Longitude	Rank	Htg Val	Last Chg			
					Oxygen	Nitrogen					Hemi Temp			
SURFACE MINE	MARTIN			W210028	9.50	5.20	5.20	375323	823509	B	13070	09/01/88		
4.10	38.80	51.70	7.90	74.40	5.20	0.60	1.50	9.40	1.40		1.0	2510		
SURFACE MINE	LAWRENCE			W205318	73.00	5.20	5.20	375325	823555	B	13320	09/01/88		
4.90	37.90	54.20	7.90	74.40	5.20	0.60	1.50	10.20	1.70		1.0	2804		
SURFACE MINE	LAWRENCE			D182462	64.30	3.90	0.60	14.30	1.30		0.0	09/01/88		
12.30	31.60	52.80	15.60	64.30	3.90	0.60	1.50					2804		
SURFACE MINE	LAWRENCE			W207863	20.30	63.70	4.50	2.60	7.60			09/01/88		
5.00	33.40	46.30	14.30	69.80	4.50	0.80	1.50	9.20	1.30		1.5	2624		
SURFACE MINE	LAWRENCE			D182463	14.30	69.80	4.50	0.80	1.40			0.0		
4.90	30.10	55.60	1.00	81.90	5.40	0.60	1.50	9.40	1.40		0.0	2804		
SURFACE MINE	JOHNSON			W203634	50.20	4.70	0.70	375425	825611	B	12270	09/01/88		
6.60	38.80	55.60	1.00	81.90	5.40	0.60	1.50	9.40	1.40		0.0	2804		
SURFACE MINE	LAWRENCE			D171586	70.10	4.70	0.70	8.80	1.70			09/01/88		
3.10	37.40	48.30	14.30	70.10	4.70	0.70	1.50	8.80	1.40			0.0		
SURFACE MINE	LAWRENCE			D171593	36.10	46.90	3.50	6.60	6.00			09/01/88		
2.30	33.00	30.90	3.50	46.90	3.50	0.50	1.50	6.00	0.90			0.0		
SURFACE MINE	LAWRENCE			D171594	35.50	49.70	3.70	4.10	6.00			0.0		
2.60	32.30	32.20	32.20	54.30	3.90	0.80	1.50	6.00	1.00			0		
MINE FACE	JOHNSON			W205316	32.20	54.30	3.90	0.80	7.50			09/01/88		
4.70	28.60	39.20	32.20	54.30	3.90	0.80	1.50	7.50	1.30		1.0	2804		
SURFACE MINE	LAWRENCE			D171599	11.40	72.90	4.80	0.70	8.80			0.0		
2.90	37.50	51.10	11.40	72.90	4.80	0.70	1.50	8.80	1.40		0.0	0		
SURFACE MINE	MORGAN			W203632	52.00	4.90	76.90	5.50	3.30	375609	825954	B	12840	09/01/88
3.70	43.10	52.00	4.90	76.90	5.50	0.50	1.50	7.80	1.60		4.0	2111		
SURFACE MINE	LAWRENCE			D171595	33.70	50.50	3.80	5.30	5.80			0.0		
2.40	33.90	32.40	33.70	50.50	3.80	0.50	1.50	5.80	0.90		0.0	0		
SURFACE MINE	MARTIN			W210026	15.30	68.80	4.90	0.90	9.30			0.0		
4.50	39.50	52.40	8.10	75.00	5.20	0.50	1.50	9.30	1.50		1.0	2804		
ROAD CUT	LAWRENCE			W213948	80.20	4.80	0.70	1.10	8.40			0.0		
5.10	37.50	47.20	15.30	80.20	4.80	0.70	1.50	8.40	1.50		1.5	2804		
ROAD CUT	LAWRENCE			W213939	60.70	3.40	0.70	9.40	1.50		1.5	2111		

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
				Ash	Oxygen	Nitrogen	Hardgrove						
SURFACE MINE	6.80	37.90	61.10	1.00	81.40	5.30	0.60	W203633	375702	825933	B	14260	09/01/88
ROAD CUT	4.30	31.60	42.80	25.60	59.80	4.20	0.60	W213938	375703	823956	B	10470	09/01/88
SURFACE MINE	5.20	36.50	50.40	13.10	70.70	5.10	1.90	W205335	375744	823335	B	12610	09/01/88
SURFACE MINE	7.40	36.60	61.70	1.70	81.10	4.70	0.60	W203631	375629	825540	B	13960	09/01/88
SURFACE MINE	3.50	41.60	51.80	6.60	76.80	5.50	0.90	W211628	375917	824041	B	13750	09/01/88
SURFACE MINE	4.50	35.80	59.30	4.90	78.30	4.70	0.70	W211683	375919	824043	B	13720	09/01/88
SURFACE MINE	2.80	36.90	34.90	28.20	55.20	4.20	5.30	D171596	375920	823955	B	10020	09/01/88
SURFACE MINE	15.90	38.00	53.30	8.70	70.50	4.90	0.80	W205333	380010	823753	B	12060	09/01/88
SURFACE MINE	4.70	41.70	51.40	6.90	74.50	5.30	2.80	W209870	380010	830343	B	13510	09/01/88
SURFACE MINE	5.80	37.20	50.40	12.40	70.30	4.80	0.70	W209872	380011	830329	B	12460	09/01/88
SURFACE MINE	6.00	31.10	41.20	MORGAN	27.70	55.90	4.00	W209873	380013	830329	B	9760	09/01/88
SURFACE MINE	5.20	36.80	47.70	15.50	66.00	4.80	3.30	W210025	380024	830555	B	12010	09/01/88
SURFACE MINE	3.80	40.20	55.40	5.60	77.00	5.30	0.70	D174719	380056	824623	B	13470	09/01/88
SURFACE MINE	2.90	38.10	54.80	7.10	76.60	5.10	0.80	380138	380138	824618	B	13480	09/01/88
	4.40	38.00	48.50	13.50	71.10	4.90	0.60	D171584	380139	824619	B	12670	09/01/88

## Coal Field Information Printout for: KY - Kentucky

Location Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg				
5.50	40.50	47.30	12.20	71.10	5.00	1.90	380140	823430	B	12800	09/01/88	0				
SURFACE MINE	4.80	37.90	49.60	ELLIOTT	W209894	4.80	4.60	380144	830624	B	12500	09/01/88	2012			
SURFACE MINE	5.00	38.00	56.80	ELLIOTT	W210292	5.20	1.40	380146	830622	B	13700	09/01/88	2678			
4.20	39.50	44.20	16.30	LAWRENCE	D169557	4.70	1.90	380154	823449	B	11940	09/01/88	0			
SURFACE MINE	7.40	35.10	53.00	LAWRENCE	W205334	11.90	72.40	5.10	0.80	380217	824219	B	12660	09/01/88		
4.30	41.80	43.90	14.30	LAWRENCE	D174712	63.90	67.70	4.70	4.30	7.70	1.50	1.0	2804			
5.30	40.80	41.60	17.50	LAWRENCE	D174721	4.10	6.70	6.70	1.20	380254	823439	B	12060	09/01/88		
E.40	41.80	52.50	5.70	LAWRENCE	D174723	76.10	5.00	380259	824223	B	11550	09/01/88				
6.30	39.10	52.40	8.50	LAWRENCE	D171581	77.10	5.00	1.40	6.50	380333	825234	B	13720	09/01/88		
SURFACE MINE	6.30	36.10	46.80	ELLIOTT	W207115	17.10	65.20	4.80	2.60	380417	830634	B	11750	09/01/88		
6.60	38.80	51.70	9.50	LAWRENCE	D168263	71.80	4.80	3.50	8.80	380450	824619	B	12880	09/01/88		
4.70	43.70	49.60	6.70	LAWRENCE	D168260	74.10	5.20	4.50	8.00	380507	824700	B	13450	09/01/88		
5.10	37.80	55.10	7.10	LAWRENCE	D174716	76.40	5.10	0.60	9.20	380517	824553	B	13510	09/01/88		
7.20	38.80	52.10	9.10	LAWRENCE	D168264	72.30	4.80	3.40	8.90	380545	825310	B	13000	09/01/88	2624	
4.60	41.00	51.10	7.90	LAWRENCE	D168251	69.80	5.00	3.80	8.50	380555	824645	B	13270	09/01/88	0	
ROAD CUT	4.20	43.50	45.50	LAWRENCE	W208435	11.00	69.80	5.00	3.80	8.80	380904	823826	B	12860	09/01/88	2012

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Oxygen	Nitrogen	Hardrove						
ROAD CUT	4.60	30.60	37.00	32.40	48.40	3.70	6.20	8.20	W211189	381017	823753	B	8910	09/01/88
ROAD CUT	5.50	38.60	52.90	8.50	LAWRENCE	W208436	5.10	3.70	381212	823613	B	1.10	1.5	2237
SURFACE MINE	3.70	38.80	51.00	10.20	CARTER	W211192	5.10	0.80	381218	825730	B	1.60	4.0	09/01/88
SURFACE MINE	5.40	35.30	46.50	18.20	BOYD	W203629	4.50	2.40	381852	824507	B	9.80	1.30	2021
SURFACE MINE	7.80	40.90	52.70	6.40	BOYD	W203628	5.00	1.00	381907	824520	B	11.20	1.60	2804
DRILL CORE	4.10	40.00	48.60	11.40	CARTER	W2111623	4.90	3.00	382004	830008	B	9.60	1.70	09/01/88
ROAD CUT	7.00	44.50	51.40	4.10	CARTER	W207808	5.50	2.20	382132	825224	B	10.60	1.70	2219
SURFACE MINE	9.10	35.00	47.20	17.80	BOYD	W207457	63.40	0.80	382147	824431	B	3.90	1.30	09/01/88
ROAD CUT	6.90	40.80	44.60	14.60	BOYD	W207896	4.50	7.80	382209	824729	B	10.00	1.30	2102
SURFACE MINE	4.60	40.30	47.80	11.90	CARTER	W211191	67.30	4.80	382323	830559	B	6.10	8.30	09/01/88
SURFACE MINE	6.60	38.70	55.90	5.40	CARTER	W211193	76.50	5.10	382324	830607	B	0.80	10.50	1.30
SURFACE MINE	7.60	38.20	48.40	13.40	BOYD	W207816	67.90	4.80	382328	824417	B	2.40	10.10	1.60
ROAD CUT	7.70	43.70	49.70	6.60	BOYD	W208199	73.90	5.10	382439	824013	B	2.80	10.10	1.40
ROAD CUT	5.20	30.20	39.10	30.70	BOYD	W207458	54.30	3.80	382447	824234	B	7.30	1.20	2804
SURFACE MINE	10.10	40.00	55.20	4.80	GREENUP	W207107	72.80	4.90	382501	825108	B	0.90	14.90	1.70
SURFACE MINE	4.70	38.80	38.60	22.60	GREENUP	W207106	59.80	4.50	382510	825107	B	3.70	8.20	1.20

## Coal Field Information Printout for: KY - Kentucky

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carlton	Hydrogr i	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Oxygen	Nitrogen		Frse Swell	Hemi Temp
SURFACE MINE	5.90	41.70	44.60	13.70	GREENUP	66.20	4.90	5.80	W207108	382548	825437	B	12300	09/01/88
ROAD CUT	5.20	46.30	46.90	6.80	GREENUP	74.20	5.70	2.00	W207862	382839	825208	B	13520	09/01/88
SURFACE MINE	6.00	33.50	51.10	15.40	GREENUP	68.10	4.60	0.90	W208434	383014	824055	B	11960	09/01/88
										9.50	1.50		1.5	2804

**Coal Field Information Printout for  
MD - Maryland**

## Coal Field Information Printout for: MD - Maryland

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Oxygen	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
BUFFALO COAL CO NO 240	1.10	11.50	65.00	16.50	GARRET	73.70	4.20	1.20	3.60	391833	792340	B	12830	09/01/88 8.0 2912
BUFFALO COAL CO NO 240	3.50	20.40	64.70	14.90	GARRET	72.70	3.90	0.40	6.50	391854	792315	B	12500	09/01/88 1.5 2912
GRAFTON COAL CO NO 173	0.70	20.40	68.80	10.80	GARRET	78.20	4.40	2.70	2.50	392209	791642	B	13740	09/01/88 9.0 2183
GRAFTON COAL CO NO 211	1.00	16.90	68.30	14.80	GARRET	75.70	4.00	1.00	3.10	392215	791722	B	13090	09/01/88 7.5 2786
YIUGH TREE FARM NO 260	2.00	22.40	69.20	8.40	GARRET	79.00	4.50	0.70	6.20	392406	792702	B	13750	09/01/88 3.8 2912
ALLEGHENY MINING NO 255	2.10	25.00	53.80	21.20	GARRET	65.90	4.20	0.50	7.10	392520	792558	B	11470	09/01/88 1.0 2768
LAOC COAL CO NO 250	0.90	21.10	56.50	22.40	GARRET	65.60	4.00	4.40	2.40	392750	792432	B	11640	09/01/88 9.0 2129
BESSERME IRON&COAL NO 196	1.40	19.30	73.90	6.80	ALLEGANY	82.20	4.40	1.30	3.60	393008	790114	B	14310	09/01/88 7.5 2912
UNION COAL CO NO 15	1.50	21.50	65.50	13.00	ALLEGANY	75.70	4.00	1.00	4.70	393116	785935	B	12950	09/01/88 1.5 2408
	2.90	21.30	57.20	21.50	GARRET	67.50	4.00	2.30	3.60	393434	791730	B	11940	09/01/88 8.0 2705
	1.30	23.60	67.60	8.80	GARRET	79.60	4.80	2.60	2.80	393522	791713	B	14220	09/01/88 9.0 2363
BURNHAM COAL CO NO 238	0.70	22.50	54.60	22.90	GARRET	66.10	4.10	3.60	2.30	3.60	791721	B	11800	09/01/88 4.0 2156
WINNER BROS COAL CO NO 202	2.10	19.70	74.50	5.80	ALLEGANY	83.50	4.50	1.00	3.40	393556	785635	B	14610	09/01/88 9.0 2777
WINNER BROS COAL CO NO 207	1.40	15.90	58.00	26.10	ALLEGANY	63.40	3.60	2.10	3.40	393615	785529	B	11050	09/01/88 4.0 2579
WINNER BROS COAL CO NO 207	1.30	25.70	66.60	7.70	GARRET	81.50	4.80	1.30	3.20	3.40	791609	E	14500	09/01/88 9.0 2804
WINNER BROS COAL CO NO 207	1.30	20.40	66.80	12.80	ALLEGANY	77.00	4.30	0.80	3.40	393635	785607	E	13500	09/01/88 9.0 2912

## Coal Field Information Printout for: MD - Maryland

Location Moisture	Volatiles	Fxd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val.	Last Chg
1.50	27.60	64.10	8.30	79.60	4.80	2.80	W193857	393733	792735	B	14270	09/01/88
0.70	21.70	64.40	13.90	75.80	4.50	1.40		3.10	1.40		9.0	2048
0.70	23.40	51.50	25.10	64.10	4.10	2.50	W189007	394009	791119	B	13280	09/01/86
PONDEROSA COAL CO NO 243			GARRET					3.10	1.30		9.0	2759
							W189006	394027	792441	B	11300	09/01/88
								2.80	1.40		7.5	2408

**Coal Field Information Printout for**

**MI - Michigan**

## Coal Field Information Printout for: MI - Michigan

Location Moisture	Volatiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen	Oxygen	Hardgrove	Free Swell	Hemi Temp
13.30	41.90	56.10	2.00	80.10	5.30	1.20	D172593	424053	841614	B	14310	09/01/88
									1.70		0.0	0
10.30	40.20	56.90	2.90	78.00	5.20	1.30	D172594	424056	841614	B	14080	09/01/88
									11.00	1.60	0.0	0
18.60	40.90	52.00	7.10	73.40	5.00	1.70	D172595	424456	844546	B	13100	09/01/88
									11.40	1.40	0.0	0

**Coal Field Information Printout for  
MO - Missouri**

## Coal Field Information Printout for: MO - Missouri

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
				BARTON	D174658	4.50	3.60	371312	943530	B	11720	09/01/88	
2.30	36.00	42.50	21.50	65.20	4.50	3.60	4.30	0.90	0.90	5.5	2408		
2.50	33.70	49.90	16.40	66.90	4.60	7.50	3.40	1.20	1.20	9.0	2408		
2.40	32.40	49.30	18.30	65.50	4.50	6.40	4.20	1.10	1.10	8.5	2534		
2.90	33.40	50.90	15.70	68.40	4.70	5.30	4.80	1.10	1.10	7.5	2255		
2.30	36.00	42.50	21.50	65.20	4.50	3.60	4.30	0.90	0.90	5.5	2408		
1.90	36.20	49.20	14.60	70.60	4.80	4.60	4.30	1.10	1.10	8.0	2057		
6.20	34.90	47.40	17.70	65.60	4.60	5.10	5.70	1.30	1.30	7.0	2102		
3.40	36.30	46.10	17.60	67.60	4.50	3.10	6.10	1.10	1.10	8.0	2066		
3.40	36.30	46.10	17.60	67.60	4.50	3.10	6.10	1.10	1.10	8.0	2066		
3.90	38.70	44.40	16.90	67.30	4.60	5.60	4.50	1.10	1.10	7.5	1958		
4.00	37.10	45.30	17.60	66.60	4.60	5.30	4.70	1.20	1.20	6.0	2309		
5.30	37.70	44.10	18.20	67.30	4.70	4.60	4.00	1.20	1.20	8.0	2284		
5.80	33.00	43.40	23.60	56.70	4.10	10.40	4.10	1.10	1.10	4.5	2138		
8.70	35.40	51.60	13.00	71.20	4.70	3.40	6.60	1.10	1.10	5.5	2255		
7.70	34.80	48.60	16.60	67.40	4.60	3.80	6.50	1.10	1.10	5.5	2273		

## Coal Field Information Printout for: MO - Missouri

Location Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen	Hardgrove	Free Swell	Hemi Temp	
8.20	32.40	46.50	21.10	59.00	4.00	10.20	381422	935709	B	10880	09/01/88	
										1.0	2129	
7.70	33.50	47.30	19.20	61.20	4.20	9.50	381422	935710	B	11350	09/01/88	
										1.0	2471	
POWER MINE	7.30	40.20	41.60	18.20	63.70	4.40	D179806	381434	935743	B	11660	09/01/88
										0.0	0	
POWER MINE	7.80	43.20	44.50	12.30	70.80	4.80	D173804	381437	935754	B	12860	09/01/88
										0.0	0	
POWER MINE	6.60	43.50	36.60	19.90	61.70	4.20	D173802	381440	935809	B	10780	09/01/88
										0.0	0	
BATES	7.00	32.90	43.00	24.10	59.90	4.10	D179888	381744	943627	B	10580	09/01/88
										3.5	2111	
BATES	6.40	33.50	41.60	24.90	61.10	4.00	D179889	381745	943627	B	10870	09/01/88
										2.5	2201	
MIDWAY MINE	7.10	37.70	42.40	19.90	63.20	4.30	D174657	381855	94340	B	11450	09/01/88
										4.0	2039	
MIDWAY MINE	7.10	37.70	42.40	19.90	63.20	4.30	D174656	381858	943430	B	11450	09/01/88
										4.0	2039	
POWER MINE	10.50	42.50	49.60	7.90	71.80	5.00	D173807	382210	935504	B	13220	09/01/88
										0.0	0	
HENRY	10.00	35.80	46.00	18.20	63.90	4.30	D179884	382249	935640	B	11370	09/01/88
										4.0	2246	
HENRY	9.10	32.80	43.00	24.20	57.30	3.80	D179885	382250	935640	B	10360	09/01/88
										1.0	2021	
HENRY	8.80	40.40	53.50	6.10	73.50	5.20	D179890	382625	934217	B	13370	09/01/88
										3.0	2183	
HENRY	8.90	39.70	51.30	9.00	70.40	5.00	D179891	382625	934219	B	12870	09/01/88
										1.5	2111	
TEBO MINE, PEABODY COAL CO	9.90	43.40	47.30	9.30	70.50	4.90	D173800	382640	934138	B	12950	09/01/88
										0.0	0	
HOWARD	10.20	34.00	48.00	18.00	63.90	4.30	D179977	391147	922955	B	11460	09/01/88
										1.0	2309	

## Coal Field Information Printout for: MO - Missouri

Location Moisture	Volatile Frd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg	
									Free Swell	Hemi Temp		
8.30	37.30	47.10	15.60	66.30	4.30	5.50	391152	922955	B	11960	09/01/88	
		HOWARD			D182625				1.10	1.0	2039	
8.80	31.70	47.90	20.40	60.10	4.20	6.60	391420	923115	B	10900	09/01/88	
		HOWARD			D179975				1.00	1.0	2129	
11.20	33.80	54.60	11.60	68.10	4.60	6.10	391754	922647	B	12400	09/01/88	
		AUDRAIN			D182627				1.10	1.0	2417	
7.70	40.70	43.80	15.50	67.00	4.50	4.60	391950	914702	B	12080	09/01/88	
		RANDOLPH			D173799				1.00	3.0	2201	
10.50	39.80	45.00	15.20	65.40	4.50	5.90	392017	923518	B	11770	09/01/88	
		RANDOLPH			D182622				1.10	0.0	0	
11.20	38.70	48.80	12.50	66.40	4.70	6.00	392031	923452	B	12110	09/01/88	
		RANDOLPH			D182620				1.10	1.0	2030	
13.30	35.60	48.10	15.30	62.90	4.40	6.50	392032	923452	B	11270	09/01/88	
		RANDOLPH			D172326				1.00	1.0	2066	
BEE VEER MINE	42.80	44.60	12.60	69.10	4.80	4.80	393122	923924	B	12370	09/01/88	
		RANDOLPH			D179898				1.10	0.0	0	
9.70	34.70	48.60	16.70	62.40	4.20	8.20	393123	924015	B	11420	09/01/88	
		MACON			D172324				1.00	1.0	2012	
9.30	46.20	43.40	10.40	70.60	5.00	4.20	393827	923007	B	12760	09/01/88	
		MACON			D174655				1.10	0.0	0	
BEE VEER MINE	11.70	42.70	45.40	11.90	69.10	4.80	5.30	393845	923004	B	12380	09/01/88
		MACON			D174654				1.10	2.0	2012	
BEE VEER MINE	11.70	42.70	45.40	11.90	69.10	4.80	5.30	393946	923004	B	12380	09/01/88
		MACON			D179892				1.10	0.0	0	
10.70	40.00	50.60	9.40	70.50	4.90	5.50	394016	922943	B	12820	09/01/88	
		MACON			D179893				1.20	5.0	1994	
10.60	41.90	46.80	11.30	70.20	4.90	3.80	394017	922943	B	12630	09/01/88	
		MACON			D179894				1.20	3.5	2183	
12.70	35.30	48.30	16.40	63.20	4.50	4.60	394017	922945	B	11390	09/01/88	
		MACON			D179895				1.30	1.0	2066	
11.10	35.80	47.70	16.50	62.70	4.30	6.20	394018	922945	B	11350	09/01/88	
		MACON			D179896				9.10	1.20	2021	

## Coal Field Information Printout for: MO - Missouri

Location Moisture	Volatile Moisture	Fxd Crbn	County	Ash	CarbRf	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
14.70	32.20	46.00	ADAIR	21.80	57.10	3.80	9.10	D182624	401302	923923	B	10420	09/01/88
18.20	42.50	45.30	SULLIVAN	12.20	69.30	4.90	3.90	D172323	401922	925147	B	12470	09/01/88
15.50	42.50	40.70	PUTNAM	16.80	63.90	4.50	3.70	D172329	402509	925328	B	11550	09/01/88
17.00	44.00	42.50	PUTNAM	13.50	70.20	4.60	3.40	D172328	402140	924440	B	12270	09/01/88
16.00	45.40	43.10	PUTNAM	11.50	70.50	4.80	3.90	D172327	402446	924440	B	12370	09/01/88

**Coal Field Information Printout for**

**MS - Mississippi**

## Coal Field Information Printout for: MS - Mississippi

Location Moisture	Volatile Crbn	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
			Ash		Oxygen			Nitrogen	Hardgrove	Free Swell	Hemi Temp		
49.60	49.60	38.30	12.10	55.00	3.90	4.20	D172317	322401	883339	L	9110	09/01/88	
51.30	49.50	44.80	5.70	62.70	4.30	2.50	D172319	322421	883243	L	10550	09/01/88	
44.80	42.70	33.70	23.60	53.40	4.20	2.40	SCOTT	322855	892300	L	9260	09/01/88	
16.40	36.80	32.00	31.20	48.20	3.60	0.70	KEMPER	W218464	323610	883238	L	8110	09/01/88
46.10	39.90	29.40	30.70	46.40	3.50	6.90	NESHOBIA	W219964	324631	891256	L	8260	09/01/88
47.00	48.60	32.70	18.70	56.20	3.80	6.10	NESHOBIA	W219956	324804	891308	L	9800	09/01/88
48.10	39.30	36.80	13.90	52.00	3.60	1.10	NESHOBIA	W219953	325017	885315	L	8880	09/01/88

**Coal Field Information Printout for**

**MT - Montana**

## Coal Field Information Printout for: MT - Montana

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Cng				
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Fres Swell	Hemi Temp
DECKER MINE, TIPPLE SAMPLE	BIG HORN	D161318	4.90	0.60	4500000	1064500	SB	12440	09/01/88	0.0	0
20.60	39.80	54.70	5.50	72.00	5.00	0.50	15.90	1.10			
DECKER MINE	BIG HORN	D182764	5.00	0.50	450217	1064900	SB	12250	09/01/88	0.0	2201
19.60	46.60	47.80	5.60	71.10	4.90	0.50	16.60	1.20			
DECKER MINE	BIG HORN	D182785	4.90	0.50	450242	1064907	SB	12460	09/01/88	0.0	2219
22.00	40.40	54.90	4.70	72.00	5.20	0.40	16.60	1.30			
DECKER MINE	BIG HORN	D182769	5.20	0.40	450312	1065030	SB	12500	09/01/88	0.0	2219
22.30	40.80	54.70	4.50	72.20	5.20	0.40	16.70	1.00			
DECKER MINE	BIG HORN	D180053	4.70	1.40	450318	1065018	SB	12090	09/01/88	0.0	2111
23.20	39.30	54.50	6.20	69.60	4.70	1.40	16.90	1.20			
DECKER MINE	BIG HORN	D182773	5.10	0.40	450321	1065018	SB	12540	09/01/88	0.0	2273
22.10	41.80	53.60	4.60	72.50	4.60	0.40	16.40	1.00			
DECKER MINE	BIG HORN	D180057	4.60	1.40	450323	1065011	SB	11740	09/01/88	0.0	2147
22.60	39.50	51.30	9.20	67.80	4.60	1.40	16.00	1.00			
DECKER MINE	BIG HORN	D182777	5.00	0.50	450324	1065011	SB	12520	09/01/88	0.0	2219
22.30	40.80	54.40	4.80	72.30	5.00	0.50	16.40	1.00			
DECKER MINE	BIG HORN	D180052	4.60	1.30	450330	1065002	SB	12090	08/01/88	0.0	2354
22.60	39.80	54.10	6.10	70.20	4.60	1.30	16.80	1.00			
HOLE M75-38	POWDER RIVER	D178966	4.10	0.50	450340	1060749	SB	11180	09/01/88	0.0	2147
35.20	39.50	51.40	9.10	57.00	4.10	0.50	17.90	1.40			
BEAR CR EMRIA	POWDER RIVER	D177827	4.40	1.00	450344	1061036	SB	11250	09/01/88	0.0	2057
32.70	42.80	47.70	9.50	65.60	4.40	1.00	18.20	1.30			
BEAR CR EMRIA	POWDER RIVER	D179033	4.60	0.40	450400	1061050	SB	11500	09/01/88	0.0	2111
30.80	41.20	50.60	8.20	68.00	4.60	0.40	17.40	1.40			
BEAR CR EMRIA	POWDER RIVER	D176694	4.90	0.30	450401	1060947	SB	11330	09/01/88	0.0	2471
30.60	42.10	52.30	5.60	67.50	4.90	0.30	20.50	1.20			
OUTCROP	POWDER RIVER	D177820	3.20	0.80	450401	1062430	SB	9200	09/01/88	0.0	2453
36.30	47.10	46.00	6.90	60.80	3.20	0.80	26.90	1.40			
BEAR CR EMRIA	POWDER RIVER	D179035	4.50	0.40	450430	1061207	SB	11490	09/01/88	0.0	2111
33.00	40.30	52.20	7.50	67.80	4.50	0.40	18.30	1.50			
BEAR CR EMRIA	POWDER RIVER	D178384	4.30	1.10	450443	1061037	SB	10420	09/01/88	0.0	2003
37.80	40.50	44.90	14.60	62.20	4.30	1.10	16.70	1.10			

## Coal Field Information Printout for: MT - Montana

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chs
					Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
BEAR CR EMRIA	24.00	35.40	33.40	31.20	POWDER RIVER	D177814	450448	1061111	SB	7540	09/01/88 2102
HOLE M75-35	32.00	41.00	51.50	7.50	POWDER RIVER	D178963	450449	1060451	SB	11200	09/01/88 2228
BEAR CR EMRIA	32.50	42.70	48.90	8.40	POWDER RIVER	D180084	450513	1061113	SB	0.0	0.0 2228
HOLE M75-33	31.50	41.60	52.90	5.50	POWDER RIVER	D178970	450528	1060528	SB	11690	09/01/88 2291
HOLE M75-20	31.70	40.30	53.80	5.90	POWDER RIVER	D178960	450546	1061433	SB	11610	09/01/88 2192
BEAR CR EMRIA	31.90	45.40	46.40	8.20	POWDER RIVER	D180087	450536	1061207	SB	11390	09/01/88 2147
HOLE M75-13	28.80	43.10	48.60	8.30	POWDER RIVER	D176686	450804	1061211	SB	11260	09/01/88 2156
HOLE M75-18	28.90	41.90	51.90	6.20	POWDER RIVER	D178956	450637	1061455	SB	11690	09/01/88 2399
HOLE M75-9	29.90	40.90	52.80	6.30	POWDER RIVER	D178972	450812	1061139	SB	11650	09/01/88 2246
HOLE M75-16	30.40	42.00	51.70	6.30	POWDER RIVER	D178975	450899	1060851	SB	11580	09/01/88 2435
OUTCROP	32.20	47.80	41.60	10.50	BIG HORN	D178395	451015	1063425	SB	8910	09/01/88 2399
OUTCROP	38.80	47.50	42.50	10.00	ROSEBUD	D178394	451200	1063420	SB	9070	09/01/88 2516
OUTCROP	26.20	45.70	48.70	5.60	POWDER RIVER	D177826	451317	1062938	SB	10850	09/01/88 2138
OUTCROP	34.70	46.10	43.80	10.10	POWDER RIVER	D177825	451435	1062803	SB	9050	09/01/88 2066

## Coal Field Information Printout for: MT - Montana

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Nitrogen	Hydrogen		Free Swell	Hemi Temp
							Oxygen	Sulfur			
OUTCROP	38.40	44.30	43.50	12.20	POWDER RIVER	D177521	451730	1062404	SB	8690	09/01/88
							3.00	0.80	24.30	1.30	0.0
OUTCROP	34.20	46.50	45.30	8.20	POWDER RIVER	D177524	451803	1062727	SB	8950	09/01/88
							3.20	0.80	26.90	1.50	0.0
OUTCROP	26.30	42.60	52.70	4.70	POWDER RIVER	D177523	452036	1052819	SB	11490	09/01/88
							4.40	0.40	20.70	1.20	0.0
OUTCROP	34.70	46.40	45.20	8.40	POWDER RIVER	D177522	452059	1062912	SB	9000	09/01/88
							3.10	0.80	26.70	1.40	0.0
											2156
26.00	43.90	46.90	46.90	9.20	POWDER RIVER	D171967	453050	1060830	SB	11230	09/01/88
							4.90	0.30	19.30	1.10	0.0
35.10	40.70	48.20	48.20	11.10	POWDER RIVER	D170203	453140	1060922	SB	11200	09/01/88
							4.60	0.30	16.20	1.10	0.0
26.40	39.00	53.10	53.10	7.90	POWDER RIVER	D169481	453149	1051013	SB	11830	09/01/88
							4.43	0.53	16.30	1.20	0.0
16.80	49.10	38.80	38.80	12.10	POWDER RIVER	D169031	453159	1060936	SB	9820	09/01/88
							4.60	0.40	23.60	1.30	0.0
29.10	42.00	50.20	50.20	7.80	POWDER RIVER	D169477	453234	1060821	SB	11590	09/01/88
							4.70	0.30	17.70	1.00	0.0
16.40	36.40	52.00	52.00	11.60	ROSEBUD	D163187	454052	1063652	SB	11630	09/01/88
							4.53	1.10	14.30	1.00	0.0
20.70	39.00	52.20	52.20	8.80	ROSEBUD	D163181	454852	1063655	SB	12120	09/01/88
							4.80	0.80	15.00	1.00	0.0
19.80	36.80	54.00	54.00	9.20	ROSEBUD	D163179	454856	1063655	SB	11910	09/01/88
							4.50	0.60	14.70	1.10	0.0
25.50	36.40	50.30	50.30	13.30	ROSEBUD	D168919	455023	1064417	SB	11250	09/01/88
							4.30	4.20	12.50	0.90	0.0
											0
24.90	37.00	49.00	49.00	14.00	ROSEBUD	D168913	455149	1063526	SB	11230	09/01/88
							4.43	2.40	13.00	0.90	0.0
26.40	39.30	48.30	48.30	12.40	ROSEBUD	D168917	455207	1064230	SB	11470	09/01/88
							4.70	0.70	14.70	1.00	0.0
ROSEBUD MINE, TIPPLE SAMPLE	15.80	36.50	48.30	15.20	ROSEBUD	D161321	455230	1063000	SB	11080	09/01/88
							4.40	4.20	10.40	1.00	0.0
											0

## Coal Field Information Printout for: MT - Montana

Location Moisture	Volatile Ash	Crbn	Frd Crbn	County	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
				BROADWATER			D166183	4.55230	1113000	B	7100	09/01/88
8.30	34.50	37.60	27.90	47.40	2.60	0.40	20.10	1.60		0.0	0	0
25.50	35.60	51.20	13.20	62.90	4.10	5.60	D168915	4.55427	1063544	SB	11070	09/01/88
								0.90			0.0	0
26.70	44.70	47.00	8.30	PRAIRIE	62.50	4.00	D165984	4.64500	1054500	SB	10110	09/01/88
								1.10			0.0	0
3.60	31.30	61.70	7.00	JUDITH BASIN	71.80	3.90	D16H181	4.64500	1095230	B	12180	09/01/88
								0.90			0.0	0
34.50	37.60	51.10	11.30	RICHLAND	63.20	3.60	D165757	4.72230	1042150	L	10030	09/01/88
								20.50	1.10		0.0	0
36.40	37.70	47.20	15.10	RICHLAND	60.00	4.00	D165763	4.72400	1042130	L	9520	09/01/88
								0.50	19.30		0.0	0
15.80	38.40	27.30	34.30	McCONE	41.70	2.40	D178789	4.73258	1061212	SB	6120	09/01/88
								1.50	19.10		0.0	2300
23.60	39.70	36.10	24.20	GARFIELD	50.20	3.00	D178780	4.73431	1061775	SB	7640	09/01/88
								0.70	21.00		0.0	2057
								0.90				

**Coal Field Information Printout for  
ND - North Dakota**

## Coal Field Information Printout for: ND - North Dakota

Location Moisture	Volatile Ash	County	Code Carbon	Hydrogen	Number Sulfur	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
Fxd Crbn	Ash								Free Swell	Hemi Temp
41.50	53.40	30.90	15.70	50.60	3.10	2.70	26.70	1.20	7560	09/01/88
45.00	44.40	47.60	8.00	64.80	4.50	1.30	20.50	0.90	0.0	0
44.60	44.00	48.80	7.20	65.50	4.60	1.30	20.50	0.90	0.0	0
PEERLESS MINE		BOWMAN	D165985		D165982	461049	1030205	L	10930	09/01/88
42.20	44.10	44.80	11.10	63.30	4.50	1.00	19.40	0.70	0.0	0
PEERLESS MINE		BOWMAN	D165979		D165979	461051	1030202	L	10990	09/01/88
37.50	48.10	38.90	13.00	62.80	4.90	1.60	16.70	1.00	0.0	0
42.30	43.30	44.40	12.30	61.70	4.50	3.10	17.70	0.70	0.0	0
PEERLESS MINE		BOWMAN	D165990		D165990	461051	1030205	L	10540	09/01/88
42.70	47.10	42.10	10.80	64.00	4.80	1.60	17.90	0.90	0.0	0
PEERLESS MINE		BOWMAN	D165976		D165976	461102	1030201	L	10370	09/01/88
46.20	46.30	43.50	10.20	62.90	4.20	1.70	20.30	0.70	0.0	0
PEERLESS MINE		BOWMAN	D165989		D165989	461104	1030205	L	10310	09/01/88
36.50	42.70	44.10	13.20	60.80	4.00	4.60	16.60	0.80	0.0	0
29.50	37.90	35.00	27.10	49.60	3.60	3.40	15.60	0.70	0.0	2003
36.80	39.10	31.80	29.10	47.70	3.50	1.90	16.90	0.90	0.0	2228
35.50	41.90	37.20	20.90	55.80	4.10	1.60	16.70	0.90	0.0	2147
35.40	42.70	44.10	13.20	61.60	4.30	2.30	17.10	1.50	0.0	2102
37.20	42.50	43.60	13.90	61.70	4.20	3.00	16.10	1.10	0.0	2111
39.90	43.90	41.60	14.50	57.60	4.30	1.00	21.90	0.70	0.0	2183

## Coal Field Information Printout for: ND - North Dakota

Location Moisture	Volatiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
		Ash		Oxygen		Nitrogen		Hardgrove	Free Swell			Hemi Temp
34.30	34.90	33.30	31.80	46.60	3.20	4.90	464713	1040120	L	7610	0.0	09/01/88 2120
			GOLDEN VALLEY				D196627					
43.40	39.20	40.00	20.80	54.40	3.70	1.60	464807	1040130	L	8950	0.0	09/01/88 2156
			GOLDEN VALLEY				D196640					
40.90	41.10	46.20	12.70	61.40	4.00	1.40	465045	1040145	L	10180	0.0	09/01/88 2246
			STARK				D173466					
23.10	42.30	37.20	20.50	54.50	3.80	6.40	465126	1024125	L	9380	0.0	09/01/88 0
			STARK				D213999					
41.10	43.00	41.60	15.40	57.40	3.50	4.40	465417	1030900	L	9760	0.0	09/01/88 2021
			STARK				D213997					
43.70	41.00	46.70	12.30	62.00	3.60	1.10	465457	1030000	L	10380	0.0	09/01/88 2030
			STARK				D213994					
44.80	43.50	45.60	10.90	62.90	4.00	1.40	465512	1030345	L	10570	0.0	09/01/88 2174
			STARK				D213995					
39.00	38.70	37.00	24.30	53.20	3.60	2.80	465602	1030956	L	9030	0.0	09/01/88 2039
			STARK				D213988					
40.40	40.10	36.10	23.80	52.00	3.70	4.40	465634	1030504	L	8880	0.0	09/01/88 1877
			STARK				D213991					
45.10	42.80	46.80	10.40	63.20	4.20	0.90	465655	1030031	L	10610	0.0	09/01/88 2228
			STARK				D213983					
42.80	47.00	43.40	9.60	63.40	4.80	0.70	465749	1030502	L	10830	0.0	09/01/88 2291
			STARK				D213985					
45.00	42.20	47.30	10.50	62.80	4.20	0.90	465849	1030318	L	10430	0.0	09/01/88 2138
			GOLDEN VALLEY				D196635					
37.80	40.40	45.80	13.80	61.00	3.90	1.00	470041	1040100	L	10050	0.0	09/01/88 2156
			GOLDEN VALLEY				D196629					
39.20	46.60	42.40	11.00	62.00	4.80	1.50	470114	1040015	L	10680	0.0	09/01/88 2291
			OLIVER				D165568					
CENTER MINE							D165568					
34.20	41.50	50.40	8.10	65.30	4.30	0.80	470300	1011510	L	10780	0.0	09/01/88 0
CENTER MINE			OLIVER				D1F570	470301				
33.20	44.20	49.20	6.60	65.20	4.41	0.40	470400	1011510	L	10870	0.0	09/01/88 0

## Coal Field Information Printout for : ND - North Dakota

Location Moisture	Volatile Ash	County	Code Number	Latitude	Longitude	Bank	Htg Val	Last Chg
Fxd Crbn		Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SOUTH BEULAH MINE 29.80 41.50	46.10 12.40	MERCER	D165572	4.30 3.10	47.0830 19.10	1014501 L	10330 0.0	09/01/88 0
SOUTH BEULAH MINE 32.90 43.10	49.40 7.50	MERCER	D165573	4.70 1.00	47.0830 20.60	1014502 L	11070 0.0	09/01/88 0
SOUTH BEULAH MINE 28.40 37.00	40.80 22.20	MERCER	D165574	3.40 1.50	47.0830 15.70	1014503 L	8970 0.0	09/01/88 0
SOUTH BEULAH MINE 30.10 35.90	40.10 24.00	MERCER	D165575	3.20 1.30	47.0830 16.10	1014504 L	8780 0.0	09/01/88 0
DUNN 38.00 43.20	43.60 13.20		D186054	4.20 1.60	47.1009 17.90	1025145 L	10490 0.0	09/01/88 2228
OLIVER 40.20 44.30	45.20 10.50		D186053	4.10 2.20	47.1142 17.30	1014433 L	11030 0.0	09/01/88 2354
OLIVFR 33.60 44.10	45.40 16.50		D194035	4.50 0.90	47.1306 20.50	1012109 L	10530 0.0	09/01/88 1994
MERCER 30.00 41.90	50.50 7.60	MERCER	D175934	4.10 0.30	47.1439 22.50	1015338 L	10730 0.0	09/01/88 2129
MERCER 35.20 44.40	46.60 9.00	MERCER	D175938	3.80 0.50	47.1450 23.60	1014532 L	9880 0.0	09/01/88 2084
MERCER 27.70 42.30	46.40 11.30	MERCER	D175936	4.20 1.70	47.1455 18.80	1015330 L	10550 0.0	09/01/88 2147
INDIAN HEAD MINE 30.70 42.30	48.80 8.90	MERCER	D165578	4.00 0.70	47.1505 21.40	1014510 L	10620 0.0	09/01/88 0
INDIAN HEAD MINE 31.10 38.80	46.50 14.70	MERCER	D165576	3.70 1.00	47.1510 17.80	1014512 L	10170 0.0	09/01/88 0
MERCER 27.50 39.40	49.20 11.40	MERCER	D175932	4.10 0.40	47.1517 20.80	1015412 L	10220 0.0	09/01/88 2084
MERCER 27.50 41.40	50.00 8.60	MERCER	D175930	4.20 0.60	47.1520 21.30	1015422 L	10620 0.0	09/01/88 2129
INDIAN HEAD MINE 34.60 44.20	47.80 8.00	MERCER	D186051	4.40 0.50	47.1530 20.40	1015345 L	11090 0.0	09/01/88 2219
DUNN 39.70 43.30	43.90 12.80		D180016	4.30 1.70	471549 19.60	1023713 L	10200 0.0	09/01/88 2255

## Coal Field Information Printout for: ND - North Dakota

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
GLENHAROLD MINE	MERCER	D165564	471600	1011600	L	10950	09/01/88			
34.60	44.60	48.80	6.60	65.40	4.50	0.80	21.60	1.10	0.0	0
GLENHAROLD MINE	MERCER	D165565	471601	1011600	L	10950	09/01/88			
28.60	45.80	47.60	6.60	65.10	4.50	0.70	22.00	1.10	0.0	0
GLENHAROLD MINE	MERCER	D165566	471602	1011600	L	10870	09/01/88			
26.60	44.30	49.00	6.70	65.00	4.60	0.80	21.70	1.20	0.0	0
GLENHAROLD MINE	MERCER	D165567	471603	1011600	L	10980	09/01/88			
31.40	44.60	49.00	6.40	65.40	4.70	0.70	21.60	1.20	0.0	0
40.10	42.40	46.60	11.00	63.10	4.10	1.20	19.80	0.80	0.0	216.5
38.70	44.90	46.80	8.30	65.40	4.50	1.00	19.60	1.10	0.0	241.7
40.90	43.50	45.00	11.50	61.90	4.20	1.70	19.90	0.80	0.0	09/01/88
40.00	43.80	43.70	12.50	60.90	4.10	2.00	19.70	0.80	0.0	238.1
33.10	43.60	45.80	10.60	62.70	4.50	0.90	20.30	1.00	0.0	09/01/88
33.60	42.60	47.80	9.60	65.10	4.60	0.90	18.60	1.20	0.0	09/01/88
40.50	43.20	46.20	10.60	63.10	4.20	1.30	20.00	0.80	0.0	221.9
37.90	43.00	44.60	12.40	61.40	4.20	1.80	19.20	1.00	0.0	09/01/88
39.90	42.90	46.30	10.80	62.90	4.30	1.20	20.00	0.80	0.0	240.8
34.60	41.30	40.80	17.90	56.80	3.90	2.00	18.60	0.80	0.0	215.6
46.40	48.70	27.20	DUNN	D178498	471707	1023311	L	7260	09/01/88	
42.70	42.10	43.60	14.30	61.30	4.30	2.40	471711	1023400	L	10310
			DUNN	D179369	471708	1023311	L	0.70	0.0	09/01/88
										2039
										224.6

## Coal Field Information Printout for: ND - North Dakota

Location Moisture	Volatiles	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Latitude	Longitude	Rank	Htg Val	Last Chg
					Oxygen	Nitrogen	Hardgrove	Free Swell			Hemi Temp
			MERCER	D221104	4.71718	1014822	L	6620	09/01/88		
36.00	44.20	28.00	27.80	43.70	2.70	3.00	21.60	1.20	0.0	2156	
			DUNN	D179372	471732	1023302	L	10120	09/01/88		
42.00	41.90	42.90	15.20	59.90	4.20	1.20	18.60	0.90	0.0	2111	
			DUNN	D178507	471733	1023454	L	8180	09/01/88		
36.10	34.10	34.90	31.00	47.80	3.40	3.90	13.60	0.30	0.0	2426	
			DUNN	D180010	471745	1023015	L	10680	09/01/88		
41.00	43.10	47.70	9.20	64.10	4.30	0.80	20.80	0.80	0.0	2147	
			DUNN	D178505	471745	1023403	L	9860	09/01/88		
43.20	42.80	41.50	15.70	59.70	4.00	1.80	18.10	0.70	0.0	2399	
			DUNN	D179383	471750	1023517	L	10770	09/01/88		
47.00	45.30	44.70	10.00	64.10	4.50	1.50	19.10	0.80	0.0	2291	
			DUNN	D180012	471758	1023645	L	10360	09/01/88		
37.80	44.10	45.60	10.30	62.00	4.30	1.30	21.10	1.00	0.0	2264	
			MERCER	D221101	471759	1014856	L	9360	09/01/88		
28.70	35.20	41.00	23.80	54.80	3.70	2.50	14.10	1.10	0.0	2183	
			DUNN	D178379	471800	1023215	L	11000	09/01/88		
43.10	48.10	43.60	8.30	65.00	4.80	1.20	20.00	0.70	0.0	2336	
			DUNN	D179374	471800	1023322	L	10320	09/01/88		
40.10	43.20	43.60	13.20	61.00	4.20	3.00	17.80	0.80	0.0	2264	
			DUNN	D179377	471803	1023229	L	10810	09/01/88		
45.40	43.20	47.30	9.50	65.00	4.10	0.50	20.00	0.90	0.0	2156	
			DUNN	D179384	471813	1023130	L	10610	09/01/88		
47.40	42.40	45.80	11.80	63.40	4.20	2.10	17.20	1.30	0.0	2741	
			DUNN	D180079	471813	1023442	L	10700	09/01/88		
44.40	44.10	46.20	9.70	63.60	4.30	1.10	20.40	0.90	0.0	2507	
			DUNN	D180075	471822	1023515	L	11090	09/01/88		
43.80	47.80	44.00	8.20	66.00	4.50	0.90	19.50	0.90	0.0	2498	
			DUNN	D180078	471826	1023403	L	10710	09/01/88		
46.60	42.30	46.80	10.90	63.40	4.30	1.30	19.20	0.90	0.0	2147	
			MERCER	D198054	471848	1015137	L	11110	09/01/88		
40.30	43.70	47.10	9.20	65.00	4.60	2.70	17.70	0.80	0.0	2156	

## Coal Field Information Printout for: ND - North Dakota

Location Moisture	Volatile Ash	Crbdn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
38.40	42.70	47.10	10.20	65.00	4.40	1.50	471850 D196052	1015234 L	10890 0.0	09/01/88 0.0	2210	
37.90	41.40	47.30	11.30	62.10	4.00	1.00	471852 D180015	1022743 L	10330 0.0	09/01/88 0.0	2246	
44.00	46.80	38.60	14.60	61.50	4.30	1.80	471852 D180075	1023459 L	10270 0.0	09/01/88 0.0	2381	
44.30	47.00	40.60	12.40	62.20	4.10	2.00	471859 D180003	1023413 L	10310 0.0	09/01/88 0.0	2327	
44.70	46.10	45.60	8.30	66.20	4.60	0.70	471913 D180080	1023516 L	10960 0.0	09/01/88 0.0	2516	
39.60	41.20	47.40	11.40	64.10	4.60	1.50	471914 D196057	1015045 L	10780 0.0	09/01/88 0.0	2156	
36.50	41.30	47.50	11.20	64.10	4.20	1.40	471920 D194869	1015400 L	10570 0.0	09/01/88 0.0	2156	
35.70	40.90	44.60	14.50	61.00	4.30	3.00	471924 D196059	1014840 L	10420 0.0	09/01/88 0.0	2111	
27.60	35.90	37.30	26.80	50.50	3.10	1.70	471940 D194965	1015214 L	8510 0.0	09/01/88 0.0	2093	
34.30	40.00	45.80	14.20	61.10	4.10	1.70	471940 D196076	1015259 L	10250 0.0	09/01/88 0.0	2048	
40.30	42.40	45.20	12.40	61.30	4.10	1.20	471944 D180019	1023400 L	10210 0.0	09/01/88 0.0	2219	
40.70	43.70	46.50	9.80	62.60	4.50	1.20	472034 D180018	1023243 L	10520 0.0	09/01/88 0.0	2318	
35.70	42.10	46.40	11.50	63.20	4.40	1.20	472115 D194863	1015052 L	10470 0.0	09/01/88 0.0	2291	
34.50	41.20	47.50	11.30	63.10	4.20	1.10	472126 D194862	1015225 L	10360 0.0	09/01/88 0.0	2030	
36.60	39.90	47.30	12.80	61.60	4.30	1.00	472215 D196082	1015115 L	10270 0.0	09/01/88 0.0	2129	
38.10	42.30	44.90	12.80	61.60	4.30	1.00	472216 D196082	1015232 L	10450 0.0	09/01/88 0.0	2102	

## Coal Field Information Printout for: ND - North Dakota

Location	Volatiles	Frd Crbn	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture		Ash	Carbon	Hydrogen	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
31.70	39.50	44.80	15.70	59.60	3.90	0.90	18.90	1.00	0.0 09/01/88 2129
37.60	40.70	42.20	17.10	58.60	3.90	2.40	17.00	1.00	0.0 09/01/88 1967
35.70	40.70	45.50	13.80	61.80	4.10	2.20	17.20	0.90	0.0 09/01/88 2192
38.60	40.70	42.90	16.40	58.70	3.90	3.90	16.10	1.00	0.0 09/01/88 2057
42.10	43.00	45.40	11.60	61.30	4.20	1.60	20.30	1.00	0.0 09/01/88 2120
41.40	42.70	48.90	8.40	64.60	4.30	0.50	21.00	1.20	0.0 09/01/88 2129
30.30	35.20	34.00	20.80	49.30	3.90	0.70	14.30	1.00	0.0 09/01/88 2246
31.20	35.50	33.70	30.80	48.50	4.30	0.60	14.90	0.90	0.0 09/01/88 2318
41.90	43.20	41.10	15.70	59.00	4.00	2.10	18.30	0.90	0.0 09/01/88 1913
41.10	39.40	39.20	21.40	54.00	3.80	2.20	17.80	0.80	0.0 09/01/88 1931
40.20	42.10	48.40	9.50	64.10	4.40	0.80	20.20	1.00	0.0 09/01/88 2183
37.20	44.10	46.00	9.90	63.80	4.60	0.80	19.80	1.10	0.0 09/01/88 0
42.90	42.70	45.60	11.70	61.80	4.30	0.70	20.40	1.10	0.0 09/01/88 1913
37.80	43.40	47.80	8.80	64.80	4.30	0.50	20.30	1.30	0.0 09/01/88 2372
45.10	41.90	45.70	12.40	61.10	4.30	0.60	20.50	1.00	0.0 09/01/88 2210
40.80	46.10	39.00	14.90	58.70	4.00	3.90	17.80	0.70	0.0 09/01/88 2174

## Coal Field Information Printout for: ND - North Dakota

Location Moisture	Volatile Ash	County	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
	Fxd Crbn			Hydrogen	Sulfur	Hardgrove	Free Swell	Hemi Temp	
43.50	42.60	42.20	60.40	4.30	2.30	481153 D240991	1034754 L	10430 0.0 09/01/88 2183	
46.80	43.60	43.70	62.30	4.30	2.20	481233 D240980	1031135 L	10510 0.0 09/01/88 2390	
43.00	42.70	46.40	63.60	4.30	0.70	481335 D240982	1030118 L	10550 0.0 09/01/88 2273	
44.10	44.30	44.10	62.80	4.40	2.60	481454 D240986	1033103 L	10590 0.0 09/01/88 2444	
40.60	41.50	43.60	WILLIAMS	14.90	50.20	4.10	481521 D240989	1034124 L	10040 0.0 09/01/88 2237
41.70	36.90	40.70	WILLIAMS	22.40	54.50	3.80	481525 D240953	1033059 L	9060 0.0 09/01/88 2318
43.60	44.80	47.80	WILLIAMS	7.40	66.80	4.70	481730 D240976	1030750 L	11260 0.0 09/01/88 2543
45.70	40.00	44.70	WILLIAMS	15.30	60.60	4.10	481743 D240974	1030156 L	10030 0.0 09/01/88 2228
45.30	42.80	50.80	WILLIAMS	6.40	66.50	4.40	482031 D240973	1030356 L	10800 0.0 09/01/88 2543
24.10	40.60	48.50	BURKE	10.90	64.60	4.40	484500 D165632	1025230 L	10900 0.0 09/01/88 0
39.20	39.60	45.90	BURKE	14.50	61.80	4.20	484825 D210365	1023401 L	10580 0.0 09/01/88 2021
36.10	40.70	49.90	BURKE	9.40	66.30	4.70	48531 D210366	1024825 L	11260 0.0 09/01/88 0

**Coal Field Information Printout for**

**NE - Nebraska**

## Coal Field Information Printout for: NE - Nebraska

Location Moisture	Volatile Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg						
	Fxd Crbn	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp						
35.20	45.00	32.30	22.70	47.20	2.80	1.50	400125	D178627	952124	B	6840	09/01/88	0.0	2156
20.50	39.00	36.20	24.80	48.60	3.70	7.20	400144	D178626	953546	B	8310	09/01/88	0.0	1832
17.40	40.70	49.90	9.40	66.70	4.70	5.20	400237	D175052	960215	B	11720	09/01/88	0.5	1949
35.70	40.50	46.20	13.20	59.80	3.20	2.20	402025	D175051	961120	B	9490	09/01/88	0.0	2030
HOLE NO RM-1-CS 35.40	41.30	37.20	21.50	50.20	3.20	1.20	403730	D176540	960040	B	7790	09/01/88	0.0	2048
31.20	36.50	34.90	28.60	48.90	3.50	2.00	403922	D178625	954904	B	7920	09/01/88	0.0	2138

**Coal Field Information Printout for  
NM - New Mexico**

## Coal Field Information Printout for: NM - New Mexico

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen		Hardgrove	Free Swell	Hemi Temp	
CAPITAN NO 2 MINE 1.20	29.40	4.5.40	25.20	62.00	4.50	0.50	6.70	D179835 333300	1053520	B	11180	09/01/88 2.0	2597
2.00	37.70	49.90	12.40	70.90	5.10	0.60	9.60	D179833 334345	1054215	B	12690	09/01/88 1.0	2417
12.40	41.30	39.00	19.70	58.40	3.70	0.70	16.40	D179834 334350	1054220	B	9650	09/01/88 0.0	2444
HOT SPOTS MINE 6.60	35.10	58.00	6.90	71.90	4.60	0.50	14.70	D179837 341900	1072420	B	12370	09/01/88 0.0	2291
8.40	34.80	29.50	35.70	45.60	3.10	0.40	14.30	D184619 342042	1071525	SB	7480	09/01/88 0.0	2552
10.80	38.10	50.20	11.70	64.70	4.30	0.70	17.40	D184617 343317	1074935	SB	10900	09/01/88 0.0	2804
SUNDANCE STRIP MINE 9.10	44.10	50.40	5.50	74.90	5.50	0.70	12.10	D183132 352735	1083815	SB	13330	09/01/88 0.0	2561
CARBON COAL CO 12.00	43.90	50.10	6.00	73.50	5.30	0.50	13.30	D183133 353125	1084820	SB	13090	09/01/88 0.0	2255
MCKINLEY STRIP MINE 9.60	42.50	47.30	10.20	70.30	5.00	0.60	12.70	D176204 353732	1085930	SB	12370	09/01/88 3.5	2408
MCKINLEY STRIP MINE 11.20	42.00	43.50	14.50	66.40	4.90	0.70	12.30	D183130 353745	1085955	SB	11810	09/01/88 0.0	2714
17.40	36.60	47.40	16.00	65.40	4.80	0.60	11.70	D177043 361413	1080941	SB	11310	09/01/88 0.0	2633
17.60	37.50	43.10	19.40	61.70	4.40	0.50	12.80	D178921 361433	1080820	SB	10830	09/01/88 0.0	2795
28.10	34.90	37.00	28.10	49.30	3.20	0.80	17.30	D178919 361433	1080923	SB	7930	09/01/88 0.0	2687
20.40	36.40	46.40	17.20	64.10	4.70	0.50	12.10	D177040 361438	1080941	SB	11140	09/01/88 0.0	2624
21.70	37.80	41.60	20.60	60.90	4.60	0.50	12.30	D177047 361456	1080823	SB	10650	09/01/88 0.0	2381
17.20	38.20	47.50	14.30	66.60	4.90	0.50	12.30	D178928 361456	1080931	SB	11710	09/01/88 0.0	2408

## Coal Field Information Printout for: NM - New Mexico

Location Moisture	Volatiles	Frd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
										Hardgrove	Free Swell	Hemi Temp
17.80	40.10	38.20	SAN JUAN 21.70	60.20	4.50	0.70	D176820	361505 11.80	1080931 1.10	SB	10660 0.0	09/01/88 2669
11.00	30.30	29.80	SAN JUAN 39.90	44.40	3.70	1.00	D177032	361537 9.90	1080931 1.10	SB	7830 0.0	09/01/88 2912
SOUTH HOSTEN PIT 11.50 34.20	46.10	19.70	SAN JUAN	61.70	4.30	0.60	D176206	363530 12.30	1082830 1.40	SB	10810 0.0	09/01/88 2912
BARBER-MATCHOTT PIT 8.00 36.00	36.00	21.00	SAN JUAN	55.30	4.00	0.80	D176209	363545 10.40	1082900 1.50	SB	9390 0.0	09/01/88 2534
SOUTH HOSTEN PIT 9.20 33.50	45.90	20.60	SAN JUAN 61.30	4.30	0.60	D176207	363610 11.90	1082815 1.30	SB	10860 0.0	09/01/88 2912	
5.70 33.10	41.10	25.80	SAN JUAN	56.70	4.30	0.70	D163019	363730 11.30	1082230 1.20	SB	9950 0.0	09/01/88 0
2.50 32.00	44.60	23.40	COLFAX	63.50	4.50	0.60	D169013	364500 6.80	1043000 1.20	B	11920 0.0	09/01/88 0
2.20 34.00	46.40	19.60	COLFAX	67.20	4.60	0.50	D169000	364500 6.60	1045230 1.50	B	12080 0.0	09/01/88 0
1.50 36.90	55.90	7.20	COLFAX	78.60	5.30	0.40	D168800	364500 6.80	1055230 1.70	SB	14010 0.0	09/01/88 0
6.90 38.90	37.40	23.70	SAN JUAN	56.40	4.00	1.60	D13005	364500 13.20	1082230 1.10	SB	9650 0.0	09/01/88 0
4.80 39.20	42.90	17.90	SAN JUAN	63.70	4.70	0.90	D176213	364600 11.40	1082530 1.40	SB	11300 0.5	09/01/88 2514
1.80 37.80	54.40	7.80	COLFAX	77.90	5.30	0.40	D169006	365230 6.90	1045230 1.70	B	13910 0.0	09/01/88 0
YORK CANYON MINE 1.70 34.80	50.40	14.80	COLFAX	71.40	4.90	0.50	D176216	365300 6.80	1045500 1.60	B	12740 8.0	09/01/88 2333

**Coal Field Information Printout for**

**NV - Nevada**

## Coal Field Information Printout for: NV - Nevada

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
LEWIS MINE 24.00	4.5, 60	20.50	33.90	LYON	33.10	2.90	7.10	D187046	393040	1185450	L	5440	09/01/88
PANCAKE MINE 7.90	34.10	52.50	13.40	WHITE PINE	65.00	3.80	2.40	D179403	392405	1154015	B	11080	09/01/88
PANCAKE MINE 6.80	33.40	54.30	12.30	WHITE PINE	66.10	3.90	2.30	D165680	392405	1154021	B	11160	09/01/88
PARIS MINE 1.30	20.00	70.30	9.70	WHITE PINE	79.30	4.30	2.30	D184667	400200	1145400	B	13960	09/01/88
												3.0	2543

**Coal Field Information Printout for  
OH - Ohio**

## Coal Field Information Printout for: OH - Ohio

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Oxygen			Nitrogen	Hardgrove	Free Swell		Hemi Temp
MEIGS NO 1 MINE	2.90	38.80	39.60	21.60	60.40	4.60	6.30	6.20	W189746	390332	821439	B	11000	09/01/88
MEIGS NO 3 MINE	4.60	38.60	38.30	23.10	59.20	4.50	4.20	8.10	W190651	390413	822219	B	1.0	1949
MEIGS NO 3 MINE	4.40	43.40	42.50	14.10	67.20	5.00	2.80	9.90	W190648	390414	822218	B	10550	09/01/88
MEIGS NO 2 MINE	5.40	39.30	45.70	15.00	66.10	5.00	3.10	9.70	W189750	390829	821734	B	11820	09/01/88
MEIGS NO 2 MINE	4.70	41.80	46.70	11.50	69.20	5.10	3.10	10.10	W189751	390829	821736	B	12230	09/01/88
CORE FPC 1	3.30	40.10	50.20	9.70	73.80	5.00	4.40	5.80	W192032	393408	812011	B	12530	09/01/88
FPC 3C	1.40	38.20	51.90	9.90	74.20	5.00	3.70	5.90	W192061	393556	811810	B	13550	09/01/88
FPC 2C	3.00	35.50	49.90	14.60	70.90	4.80	2.60	5.80	W192264	393642	811928	B	12710	09/01/88
R&F COAL , VARGO PIT	8.00	33.30	45.20	21.50	60.50	4.00	4.10	8.80	W189047	393905	820836	B	4.0	2138
SUNNYHILL NO 4 MINE	5.80	32.70	37.80	29.50	54.90	3.90	2.20	8.50	W189057	394040	821102	B	10750	09/01/88
SUNNYHILL NO 4 MINE	6.40	36.00	41.70	22.30	59.10	4.20	6.30	7.00	W191306	394041	821100	B	1.5	2111
R&F COAL , VARGO PIT	2.60	35.30	41.40	23.30	59.50	4.30	2.30	9.60	W189043	394224	820548	B	9670	09/01/88
NA COAL CORP, NO 7 MINE	2.00	40.00	46.60	13.40	70.10	4.90	4.10	6.30	D174480	394230	805230	B	10550	09/01/88
NA COAL CORP, NO 7 MINE	1.00	39.90	48.10	12.00	70.10	5.00	4.20	7.50	D174479	394340	805216	B	12710	09/01/88
NA COAL CORP, NO 4 MINE	2.00	41.70	47.10	11.20	71.60	5.20	5.00	5.80	D174478	394740	805106	B	12970	09/01/88
NA COAL CORP, NO 4 MINE	2.00	44.10	46.90	9.00	73.90	5.20	3.70	6.90	D174477	394740	805108	B	13360	09/01/88

## Coal Field Information Printout for: OH - Ohio

Location Moisture	Volatile Ash	Fxd Cbn	County	Carb. %	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
NA COAL CORP, NO 1 MINE	41.90	47.40	MONROE		D173518	395047	805711	B	13020	09/01/88
	2.00	10.70		72.00	5.00	4.60	6.50	1.20	5.0	2030
NA COAL CORP, NO 1 MINE	42.60	47.60	MONROE		D173515	395047	805712	B	13140	09/01/88
	2.00	9.80		72.50	5.20	4.70	6.60	1.20	6.5	2048
NA COAL CORP, NO 5 MINE	43.30	46.10	BELMONT		D173517	395244	805224	B	13050	09/01/88
	2.10	10.60		71.30	5.10	5.20	6.60	1.20	6.0	2048
Y & O COAL, ALLISON	42.20	45.20	BELMONT		D173516	395334	805933	B	12500	09/01/88
	2.30	12.80		70.50	4.90	4.90	5.80	1.20	5.0	2048
Y & O COAL, ALLISON	42.00	48.20	BELMONT		D173510	395339	805934	B	13190	09/01/88
	2.20	9.80		73.00	5.00	4.40	6.60	1.20	6.5	2030
NA COAL CORP, NO 6 MINE	42.30	46.90	BELMONT		D173520	395458	805749	B	13160	09/01/88
	2.30	10.30		72.50	5.20	4.70	6.10	1.20	6.0	2039
NA COAL CORP, NO 6 MINE	42.30	46.90	BELMONT		D173521	395459	805749	B	13020	09/01/88
	2.30	10.80		71.50	5.00	5.20	6.20	1.20	5.0	2030
NA COAL CORP NO 3 MINE	42.60	46.60	BELMONT		W187048	395635	805458	B	13080	09/01/88
	1.60	10.80		72.10	5.10	4.60	6.30	1.10	7.0	2039
NA COAL CORP NO 3 MINE	38.40	49.00	BELMONT		W187049	395636	805505	B	12780	09/01/88
	1.80	12.60		69.90	5.00	5.70	5.70	1.10	5.5	2048
BOITCH PIT NO 2	42.90	53.30	MUSKINGUM		W180643	400050	815544	B	13710	09/01/88
	5.00	3.80		77.10	5.50	2.20	10.20	1.20	4.0	1967
R&F COAL, CONE PIT	37.30	44.70	BELMONT		W189065	400102	810106	B	11740	09/01/88
	1.90	18.00		64.90	4.70	3.10	8.10	1.20	4.5	2381
1.80	39.00	48.70	BELMONT		W188929	400129	811130	B	12610	09/01/88
	1.80	12.30		70.20	4.90	3.10	8.20	1.30	5.5	2129
BOITCH PIT NO 1	44.30	49.00	MUSKINGUM		W190645	400130	815734	B	12890	09/01/88
	5.00	6.70		71.20	5.00	5.30	10.70	1.10	3.5	2372
CONSOL COAL CO 45A PIT	42.90	43.60	BELMONT		W185970	400244	811044	B	12440	09/01/88
	2.80	13.50		69.10	4.90	4.60	6.70	1.20	5.0	2084
CONSOL COAL CO MOUNTAINEER	39.80	50.80	BELMONT		W185902	400250	810507	B	13080	09/01/88
	2.80	9.40		72.00	5.00	3.10	9.30	1.20	6.0	2282
R&F COAL, VARGO PIT	30.20	41.70	BELMONT		W185952	400304	805805	B	10040	09/01/88
	2.20	28.10		57.00	3.80	3.00	7.20	0.90	1.0	2417

## Coal Field Information Printout for: OH - Ohio

Location Moisture	Volatile Ash	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SAGINAW MINE 1.90	30.90	50.90	10.20	71.70	5.10	5.40	W189763	400327	805501	B	12970	09/01/88 2003
SAGINAW MINE 2.00	42.10	50.60	7.30	73.90	5.30	4.00	W189759	400327	805502	B	13500	09/01/88 2057
REF COAL, PIT 414 2.90	34.90	42.80	22.30	61.60	4.30	2.40	W189038	400400	805943	B	11090	09/01/88 2426
FARVIEW PIT 2.90	39.40	49.10	11.50	70.20	4.90	3.40	W189745	400431	811510	B	12570	09/01/88 2129
DOW MINING, REHM RO PIT 2.20	32.30	43.70	24.00	60.00	4.50	2.50	W189061	400503	805152	B	10840	09/01/88 2741
M&S MINING, BARTON PIT 1.80	34.80	44.80	20.40	63.60	4.50	2.40	W189027	400524	805321	B	11410	09/01/88 2570
REF COAL, 331 PIT 1.70	38.90	47.00	14.10	69.20	4.80	2.60	W189023	400554	805852	B	12330	09/01/88 2129
CONSOL COAL CO 500 2.70	43.10	46.70	10.20	70.40	5.10	4.50	W189004	400640	811235	B	12930	09/01/88 2084
CONSOL COAL CO 550 PIT 2.20	47.10	36.60	16.30	65.10	4.80	7.50	W188984	400640	811236	B	12020	09/01/88 2030
CONSOL CO FRANKLIN 25 3.50	40.20	49.50	10.30	71.90	5.00	4.20	W188995	400846	810211	B	12920	09/01/88 2084
SIMEO NO 7 MINE 5.10	48.30	48.30	3.40	77.40	5.50	3.10	W191303	400851	812426	B	14040	09/01/88 2003
SIMEO NO 5 MINE 5.30	44.20	45.10	10.70	71.20	5.10	4.10	W189067	400905	813004	B	13240	09/01/88 2192
PEABODY-SIMCO SURFACE MINE 2.70	44.60	48.90	6.50	72.50	5.20	4.40	W189022	400949	805012	B	10950	09/01/88 2192
DOW MINING, 250 PIT 3.70	33.60	44.00	22.40	60.70	4.30	3.30	W191307	400909	814442	B	12800	09/01/88 2192
SIMCO NO 5 MINE 4.90	44.70	49.90	5.40	75.20	5.30	3.70	W189020	400951	815004	B	13540	09/01/88 2030
REF COAL, PAGE PIT 2.40	38.40	50.80	10.80	71.60	5.10	3.00	W189062	401003	810032	B	12220	09/01/88 2183

## Coal Field Information Printout for: OH - Ohio

Location Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
R&F COAL,PELTZ-MITCHELL PIT	3.00	36.10	45.70	18.20	62.70	4.60	W189034	401008 8.40	805100 0.80	B	11400	09/01/88 6.0 2084
CONSOL COAL CO 46D PIT	3.00	41.30	47.90	10.80	72.20	5.30	W189088	401018 7.40	810145 1.40	B	13040	09/01/88 4.0 2246
R&F COAL,VARGO PIT	4.00	36.90	47.60	15.50	66.60	4.60	W189030	401020 7.10	804517 1.40	B	12050	09/01/88 5.0 2084
CONSOL COAL CO 46C PIT	4.00	40.80	49.80	9.40	73.20	5.30	W189057	401020 8.50	810405 1.50	B	13160	09/01/88 4.0 2390
R&F COAL,GROSKY PIT	7.30	34.80	45.80	19.40	63.10	4.30	W189045	401038 1.10	805144 11.00	B	11200	09/01/88 0.5 2633
CONSOL CO GEM OF EGYPT	3.10	36.20	53.40	10.40	72.50	4.90	W189003	401041 2.00	805838 8.90	B	12870	09/01/88 4.0 2534
SIMCO NO 4 MINE	4.40	44.00	44.50	6.90	72.10	5.20	W189017	401200 3.70	814519 10.70	B	13160	09/01/88 4.0 2084
SIMCO NO 4 MINE	4.00	46.70	47.80	5.50	73.40	5.50	W189024	401201 4.20	814519 10.00	B	13400	09/01/88 6.5 2030
BROKEN ARO SURFACE MINE	6.90	40.00	51.90	8.10	73.50	5.10	W191299	401430 2.80	815904 9.20	B	13130	09/01/88 4.0 1958
BROKEN ARO SURFACE MINE	5.70	44.80	44.40	10.80	69.70	5.10	W191295	401433 5.60	815904 7.60	B	12670	09/01/88 4.5 2066
CONSOL CO OAK PARK MINE	5.50	45.00	49.60	5.40	75.30	5.10	W188996	401438 4.10	810044 8.70	B	13540	09/01/88 4.0 2084
CONSOL CO OAK PARK MINE	3.20	38.50	52.20	9.30	73.90	5.00	W188973	401438 3.90	810046 6.50	B	13160	09/01/88 5.0 2066
CONSOL CO SILVER SPADE PIT	3.50	40.80	50.50	8.70	74.50	5.20	W188983	401531 3.40	810132 6.60	B	13520	09/01/88 3.5 2030
CONSOL COAL ROSE VALLEY MINE	2.80	38.90	51.50	9.60	71.30	5.00	W188999	401531 3.50	80532 9.30	B	12980	09/01/88 5.0 2111
CONSOL COAL ROSE VALLEY MINE	3.30	38.80	51.80	9.40	74.50	5.00	W188974	401539 3.10	805437 6.20	B	13200	09/01/88 6.5 2138
CONSOL COAL ROSE VALLEY MINE	3.10	36.40	53.50	10.10	74.20	5.00					13140	09/01/88 5.0 2183

## Coal Field Information Printout for: OH - Ohio

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen					
									Oxygen					
CONSOL COAL ROSE VALLEY MINE	3.10	36.80	55.00	8.20	HARRISON	75.60	5.00	2.30	W188997	401644	805432	B	13510	09/01/88
										1.50			6.0	2192
Y & O COAL, NELMS NO 1 MINE	2.20	41.40	51.30	7.30	HARRISON	76.60	5.30	2.70	D173511	401823	805402	B	13750	09/01/88
										6.70			4.5	2183
Y & O COAL, NELMS NO 2 MINE	2.40	38.70	52.00	9.30	HARRISON	74.00	5.30	3.10	D173513	401958	805500	B	13430	09/01/88
										7.10			5.5	2138
CONSOL COAL ROSE VALLEY MINE	2.30	38.90	52.80	8.30	JEFFERSON	73.40	5.10	3.90	W188976	402200	804928	B	13380	09/01/88
										8.00			5.5	2102
NA COAL CORP JENSIE MINE	2.00	38.60	47.60	13.80	JEFFERSON	70.20	4.90	4.60	W187044	402608	804933	B	12650	09/01/88
										5.20			4.5	2039

**Coal Field Information Printout for  
OK - Oklahoma**

Coal Field Information Printout for: OK - Oklahoma

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
4.90	21.80	66.00	12.20	77.50	LE FLORE	D176244	3.00	2.00	340946	944713	B	13240	09/01/88	
1.00	22.20	69.20	8.60	81.30	LE FLORE	D183431	4.40	1.00	345252	943650	B	14280	09/01/88	
2.90	30.40	46.10	23.50	61.20	PITTSBURG	D179904	4.20	2.10	345415	953720	B	10980	09/01/88	
1.90	39.70	49.20	11.10	71.50	PITTSBURG	D183437	4.90	5.90	345834	953657	B	13160	09/01/88	
2.60	31.60	63.80	4.60	82.10	HASKELL	D183434	5.00	1.60	350647	950730	B	14720	09/01/88	
1.90	31.10	61.70	7.20	79.20	HASKELL	D179909	5.10	1.60	350653	951908	B	9.0	2066	
3.00	19.00	74.70	6.30	82.30	LE FLORE	D176248	4.30	2.80	350855	945405	B	14310	09/01/88	
1.20	20.60	75.90	3.50	85.70	HASKELL	D179902	4.60	0.80	350928	945759	B	15040	09/01/88	
2.80	20.20	76.20	3.60	86.30	HASKELL	D176853	4.50	0.50	350955	945707	B	14980	09/01/88	
1.00	21.60	75.20	3.20	86.70	LE FLORE	D176851	4.70	0.50	350958	945640	B	15080	09/01/88	
1.60	20.60	76.80	2.60	87.30	HASKELL	D179907	4.60	0.70	351000	945635	B	15210	09/01/88	
3.50	18.80	72.60	8.60	81.60	LE FLORE	D176165	4.20	1.10	351010	944703	B	13880	09/01/88	
1.20	19.50	74.80	5.70	84.00	HASKELL	D176848	4.30	0.80	351120	950150	B	14490	09/01/88	
KEOTA COAL CO MINE	25.20	64.40	10.40	78.20	HASKELL	D176167	4.60	1.60	351258	945700	B	13790	09/01/88	
1.80	28.90	62.60	8.50	77.80	HASKELL	D183424	5.00	1.50	351545	951808	B	13940	09/01/88	
GARLAND NO 10 MINE						D176844						6.0	2093	
HOYT MINE						D176855						2.5	2237	
RIVER VALLEY MINERALS MINE					MUSKOGEE	D176855			352135	951635	B	14890	09/01/88	
1.90	29.00	67.60	3.40	84.20								4.90	2.00	

## Coal Field Information Printout for: OK - Oklahoma

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Oxygen	Nitrogen						
PORT MINE	1.00	29.80	61.90	8.30	77.90	4.80	4.50	2.90	D183429	352318	951355	B	14080	09/01/88 2219
P&K POLYANNA MINE	6.10	37.40	58.90	3.70	79.40	5.00	1.90	8.10	D183425	352815	955727	B	14150	09/01/88 2111
PORTER MINE	2.60	39.60	55.50	4.90	78.60	5.40	3.30	6.00	D183441	355150	953135	B	14390	09/01/88 2246
GABLES REDONDA MINE	1.30	33.30	46.80	19.90	64.30	4.40	6.80	3.30	D176247	360028	953033	B	12270	09/01/88 2039
MCNABB MINE	4.30	32.10	62.90	5.00	80.20	5.10	0.50	7.20	D183428	360552	953005	B	11890	09/01/88 2255
HEFNER&CO MINE	2.50	37.00	52.60	10.40	71.80	5.06	5.90	5.30	D183443	361507	954022	B	14600	09/01/88 2551
	5.70	34.40	57.80	7.80	77.70	5.10	0.50	7.10	D184545	363234	952155	B	13270	09/01/88 2156
	2.70	43.40	51.30	5.30	77.60	5.50	3.40	6.50	D184524	363520	952914	B	13780	09/01/88 2408
	2.90	44.50	48.80	6.70	76.30	5.30	0.60	7.50	D184622	363628	952628	B	14300	09/01/88 2381
	3.20	44.30	48.90	6.80	75.00	5.40	4.80	6.50	D184627	363934	952645	B	14190	09/01/88 2318
	3.00	45.80	49.10	5.10	77.90	5.50	3.10	6.80	D184632	363939	952527	B	14000	09/01/88 2345
	2.80	43.90	50.40	5.70	77.40	5.50	3.30	6.60	D184626	364130	952208	B	13920	09/01/88 2201
	2.70	36.40	49.10	14.50	69.80	4.80	4.90	4.60	D184630	364226	952213	B	14280	09/01/88 2353
	4. STAR COAL AND MINING CO	2.90	35.10	50.40	14.50	70.00	4.80	4.60	D183447	365339	951040	B	12740	09/01/88 2056
									D183453	365422	951240	B	12760	09/01/88 2012

## Coal Field Information Printout for: OK - Oklahoma

Location Moisture	Volatile 3.00	Fxd Crbn 48.20	Crby 16.00	County CRAIG	Carbon 68.70	Hydrogen 4.70	Sulfur 4.60	Code Number D183449	Latitude 365455	Longitude 951202	Rank B	Htg Val 12490	Last Chs 09/01/88
BILL'S COAL CO PIT NO 5													
LEON'S COAL CO MINE	2.30	35.90	49.00	CRAIG	15.10	68.70	4.80	D183451	365552	950850	B	12670	09/01/88
CUSTOM COAL CO MINE	2.90	38.20	53.10	CRAIG	8.70	75.30	5.10	D183444	365630	950755	B	13780	09/01/88

**Coal Field Information Printout for  
PA - Pennsylvania**

## Coal Field Information Printout for: PA - Pennsylvania

Location	Moisture	Volatile	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
STRIP MINE,KELLEY ENTERPRISE	2.20	36.90	55.10	8.00	GREENE	77.90	5.20	1.40	W190575	39.5156	795652	B	13910	09/01/88
										5.90	1.60		8.0	2516
STRIP MINE,KELLEY ENTERPRISE	2.30	36.50	54.50	9.00	GREENE	77.10	5.20	0.70	W190576	39.5157	795552	B	13750	09/01/88
										6.40	1.60		8.5	2912
STRIP MINE,H&E COAL CO	1.70	40.40	47.10	12.50	GREENE	73.20	5.10	2.40	W190577	39.6440	800028	B	13150	09/01/88
										5.30	1.50		7.0	2516
STRIP MINE,PONTARERO COAL CO	11.80	36.10	54.50	9.40	FAYETTE	70.20	4.20	1.80	W190581	39.5109	795232	B	11970	09/01/88
										12.90	1.50		0.0	2516
PONTARERO & SONS COAL STRIP	7.00	31.20	50.20	18.60	FAYETTE	64.80	4.20	1.50	W189198	39.5110	795212	B	11260	09/01/88
										9.70	1.20		0.5	2912
PENN MINERAL CO STRIP MINE	1.40	36.10	50.60	13.30	FAYETTE	71.30	4.90	4.80	W189174	39.5936	795530	B	12850	09/01/88
										4.20	1.50		8.0	2084
STRIP MINE,PURCO COAL	2.60	28.60	64.40	7.00	FAYETTE	81.50	4.50	2.10	W190578	400307	792703	B	14430	09/01/88
										3.20	1.40		8.5	2246
STRIP MINE,PURCO COAL	2.40	29.00	52.70	8.30	FAYETTE	80.30	4.70	3.00	W190580	400310	792703	B	14220	09/01/88
										2.40	1.30		8.0	2246
STRIP MINE,ETNA EQUIPMENT	4.80	35.10	43.20	21.70	WASHINGTON	63.70	4.40	2.40	W190569	400354	800005	B	11310	09/01/88
										6.50	1.30		5.5	2192
KES ENTERPRISES STRIP MINE	1.20	36.20	47.30	16.50	WASHINGTON	68.10	4.70	3.40	W189178	400628	800450	B	12290	09/01/88
										5.80	1.50		7.0	2156
KES ENTERPRISES STRIP MINE	1.50	37.00	47.30	15.70	WASHINGTON	69.50	4.80	1.70	W189177	400634	800439	B	12500	09/01/88
										6.70	1.60		7.0	2678
STRIP MINE,ETNA EQUIPMENT	2.90	34.00	45.00	21.00	WASHINGTON	64.90	4.40	2.70	W190564	400710	795908	B	11700	09/01/88
										5.70	1.30		7.5	2192
STRIP MINE,TWILIGHT COAL CO	4.70	37.90	42.20	19.90	WASHINGTON	65.70	4.60	3.50	W190573	400846	800256	B	11860	09/01/88
										4.90	1.40		7.0	2246
ALICE ROBINSON STRIP MINE	2.10	29.90	63.20	6.90	WESTMORELAND	81.70	5.00	1.70	W189176	400920	792500	B	14350	09/01/88
										3.30	1.40		9.0	2192
STRIP MINE,TWILIGHT COAL CO	■ 10	32.60	46.40	21.00	WASHINGTON	65.00	4.10	1.40	W190554	401013	800308	B	11410	09/01/88
										7.10	1.40		2.0	2192
STRIP MINE	2.00	35.60	54.60	9.80	ALLEGHENY	75.10	5.10	2.00	W205830	401510	795237	B	13480	09/01/88
										6.30	1.70		9.0	2399

## Coal Field Information Printout for: PA - Pennsylvania

Location	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Ht@ Val	Fres Swell	Last Chg
Moisture						Oxygen	Nitrogen	Hardgrove					Hemi Temp
STRIP MINE				ALLEHENY			W209628	401540	793234	B	13010	8.5	09/01/88 2507
2.10	33.80	53.40	12.80	72.30	4.90	2.60		5.90	1.50				
BOLOGNA MINING CO STRIP MINE				WASHINGTON	W189160	3.30	401940	803050	B		9980	3.0	09/01/88 2246
3.30	30.80	40.30	28.90	56.10	3.90	6.60		1.20					
STRIP MINE, PENNWEIR CONST CO				WASHINGTON	W190556	4.20	402134	802938	B		10410	4.0	09/01/88 2084
2.70	40.00	32.90	27.10	56.70	5.50	4.40		1.10					
STRIP MINE, PENNWEIR CONST CO				WASHINGTON	W1B0559	4.10	402137	802938	B		10340	5.5	09/01/88 2183
3.40	37.20	35.10	27.70	56.70	4.10	4.10		6.30	1.10				
STRIP MINE, N CAMBRIA FUEL				WESTMORELAND	W190591	4.40	402139	792411	B		12140	8.0	09/01/88 2129
1.10	32.60	47.60	19.80	67.60	6.00	1.20		1.00					
STRIP MINE, BOLOGNA MINING CO				WASHINGTON	W190562	402212	801822	B			12560	5.5	09/01/88 2912
3.80	39.30	45.80	14.90	70.00	4.90	0.70		8.00	1.50				
MIDWAY COAL CO STRIP MINE				WASHINGTON	W189205	402257	801655	B			13510	6.0	09/01/88 2273
2.90	39.00	53.00	8.00	75.10	5.10	2.30		8.10	1.40				
NEW FLORENCE NO 2 MINE				INDIANA	W206999		402258	790628	B		11860	9.0	09/01/88 2201
1.90	21.50	55.80	22.70	66.40	4.10	3.90		1.70	1.20				
NEW FLORENCE NO 2 MINE				INDIANA	W206989		402304	790548	B		10770	9.0	09/01/88 2399
1.70	19.80	50.60	29.60	60.50	3.80	3.70		1.30	1.10				
NEW FLORENCE NO 2 MINE				INDIANA	W206980		402354	790528	B		11960	9.0	09/01/88 2642
2.00	21.10	56.90	22.00	67.40	4.30	2.20		2.90	1.20				
STRIP MINE				ALLEHENY	W206444		402415	800723	B		13790	8.5	09/01/88 2714
2.20	37.50	56.10	6.40	78.60	5.40	1.00		7.20	1.40				
CAMBRIA				CAMBRIA	W207300		402446	784832	B		13840	9.0	09/01/88 2246
2.90	20.30	68.30	11.40	79.40	4.50	1.60		1.70	1.40				
3.00	19.70	70.10	10.20	80.20	4.50	1.20		2.50	1.40				
CAMBRIA					W207304		402450	784817	B		13980	9.0	09/01/88 2516
2.50	19.10	66.60	14.30	76.00	4.30	0.90		3.10	1.40				
STRIP MINE				ALLEHENY	W209632		402521	801711	B		12720	5.5	09/01/88 2228
3.00	36.50	50.30	13.20	70.60	4.90	2.60		7.30	1.40				
STRIP MINE				ALLEHENY	W209854	5.10	402529	801621	B		13640	5.0	09/01/88 2336
2.70	39.00	53.30	7.70	75.40				8.20	1.50				

## Coal Field Information Printout for: PA - Pennsylvania

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
					Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
STRIP MINE	2.40	37.30	55.70	7.00	77.00	5.10	1.30	8.00	402534	801418	B 13750 6.0 09/01/88 2642
HELEN MINE	0.90	21.90	53.00	25.10	65.70	3.60	2.10	2.40	402740	790240	B 11440 9.0 09/01/88 2804
HOMER CITY NO 1	0.70	26.30	58.60	15.10	72.70	4.50	3.80	2.70	402830	791332	B 13020 9.0 09/01/88 2129
LUCERNE NO 6	0.90	23.90	61.30	14.80	73.70	4.50	2.40	3.30	402830	791339	B 12500 8.0 09/01/88 2183
HELEN MINE	1.70	25.50	60.40	14.10	74.30	4.40	2.60	3.30	402852	791251	B 13300 9.0 09/01/88 2354
HELEN MINE	1.20	24.60	58.10	17.30	71.80	4.30	2.40	3.00	402905	791406	B 12630 9.0 09/01/88 2273
HOMER CITY NO 1	0.80	26.70	61.70	11.60	77.50	4.60	2.10	2.90	402910	791401	B 13550 9.0 09/01/88 2156
HEAD COAL CO STRIP	1.30	25.80	65.00	9.20	78.00	4.60	2.80	4.30	402937	791326	B 13300 9.0 09/01/88 2030
HEAD COAL CO STRIP	2.80	27.70	62.30	10.00	77.90	4.90	2.90	2.90	403004	791010	B 13930 9.0 09/01/88 2354
HELEN MINE	1.00	26.00	62.30	11.70	77.10	4.60	1.80	3.40	402950	791350	B 13590 9.0 09/01/88 2462
HOMER CITY NO 1	1.30	24.70	62.30	7.60	80.20	5.10	0.70	4.90	403004	791020	B 14230 9.0 09/01/88 2102
STRIP MINE	1.10	29.40	57.80	12.80	73.10	4.60	6.40	1.70	403030	790720	B 13260 8.5 09/01/88 2111

## Coal Field Information Printout for: PA - Pennsylvania

Location	Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
LUCERNE NO 6	0.80	29.00	59.90	11.10	76.80	4.60	2.20	403031	791458	B	13730	09/01/88	2156	
LUCERNE NO 6	0.90	29.10	61.60	9.30	78.90	4.80	2.00	403033	791454	B	14080	09/01/88	2246	
LUCERNE NO 6	1.00	28.50	58.90	12.60	75.50	4.60	1.90	403046	791422	B	13460	09/01/88	2516	
LUCERNE NO 6	1.50	26.30	61.80	11.90	76.40	4.50	2.00	403052	791324	B	13230	09/01/88	2399	
LUCERNE NO 6	0.90	20.60	58.40	21.00	69.20	3.90	1.00	403105	791302	B	12070	09/01/88	2750	
LUCERNE NO 6	1.30	23.00	59.20	17.80	71.10	4.20	0.70	4.90	403105	791303	B	12390	09/01/88	2912
LUCERNE NO 6	1.00	19.40	53.00	27.60	63.00	3.60	1.00	403107	791302	B	11010	09/01/88	2912	
LUCERNE NO 6	1.00	24.60	51.90	23.50	65.30	4.10	2.30	403235	791318	B	11590	09/01/88	2651	
LUCERNE NO 6	0.80	19.50	42.10	38.40	50.70	3.10	4.50	403240	791400	B	9020	09/01/88	2354	
LUCERNE NO 6	1.10	29.20	57.60	13.20	74.90	4.50	2.40	403254	791434	B	13340	09/01/88	2318	
STRIP MINE, BRYAN CONST CO	1.60	38.90	50.90	10.20	75.00	4.80	4.50	4.00	4.00	1.50	7.5	09/01/88	2066	
								D173495	403627	790235	B	13710	09/01/88	0
								D173459	403645	790332	B	12950	09/01/88	0
								D173497	403647	790409	B	13800	09/01/88	0
								D173494	403811	790332	B	13790	09/01/88	0
								D173493	403821	790341	B	14470	09/01/88	0

## Coal Field Information Printout for: PA - Pennsylvania

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
L&E CONSTRUCTION					ARMSTRONG				W197266	404112	791952	B	13600	09/01/88
1.70	33.80	55.70	10.50	75.80		4.80	2.20	5.30		1.40		9.0	2219	
STRIP MINE, ROB COAL CO	4.10	38.60	55.50	5.90	ARMSTRONG				W190597	404225	793645	B	14290	09/01/88
2.80	31.80	47.50	20.70	65.40	BUTLER				W206955	404311	794805	B	8.0	2093
FAWN MINE NO 91	3.10	33.60	50.20	16.20	BUTLER				W206943	404314	794853	B	11730	09/01/88
FAWN MINE NO 91	3.10	31.20	47.90	20.90	BUTLER				W206970	404340	794804	B	11760	09/01/88
COCHRAN&KELLER MINE	1.70	33.20	54.90	11.90	ARMSTRONG				W197270	404404	792535	B	8.0	2651
NICHOLSON RUN CO STRIP	1.70	34.70	53.90	11.40	ARMSTRONG				W202066	404455	793620	B	13190	09/01/88
ANDERSON CRK COAL&CLAY STRIP	1.00	22.20	61.30	16.50	CLEARFIELD				W189225	404502	782301	B	12520	09/01/88
ANDERSON CRK COAL&CLAY STRIP	2.70	22.50	58.30	19.20	CLEARFIELD				W189229	404506	782307	B	12180	09/01/88
NORTHUMBERLAND	1.20	10.00	80.40	9.60					W184943	404704	763702	A	13830	09/01/88
ARMSTRONG	2.00	34.90	51.90	13.20					W202050	404715	782930	B	8.5	2084
W Houser Coal Co Strip Mine	2.10	35.10	49.80	15.10	ARMSTRONG				W189210	404748	793833	B	12700	09/01/88
BBS SURFACE MINE	1.10	26.60	62.70	10.70	INDIANA				W197274	404808	785106	B	13700	09/01/88
STRIP MINE	1.40	36.80	49.50	13.70	ARMSTRONG				W188857	405144	793725	B	12350	09/01/88
STRIP MINE	1.70	36.70	54.00	9.30					W188859	405144	793728	B	13080	09/01/88

Coal Field Information Printout for: PA - Pennsylvania

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
STRIP MINE,SBP COAL CO	BUTLER	W190589	405158	794644	B	13350	09/01/88				
3.30 36.20	54.40 9.40	75.30	5.00	2.10	6.80	1.40			7.5	2192	
STRIP MINE	BUTLER	W202056	405220	794820	B	12640	09/01/88				
2.60 33.10	52.70 14.20	71.50	4.60	1.30	7.10	1.30			5.0	2723	
STRIP MINE	BUTLER	W1B8860	405535	794525	B	12110	09/01/88				
1.50 30.50	53.20 16.30	68.30	4.60	1.40	8.20	1.20			3.5	2732	
WEST FREEDOM MINING CO STRIP	BUTLER	W1B9192	405538	794529	B	13230	09/01/88				
2.70 34.20	55.40 10.40	74.20	4.80	1.20	8.00	1.40			6.0	2579	
WEST FREEDOM MINING CO STRIP	BUTLER	W1B9186	405538	794929	B	13700	09/01/88				
2.40 34.40	58.80 6.80	76.70	5.00	1.90	8.20	1.40			6.0	2192	
BENJAMIN COAL CO STRIP MINE	CLEARFIELD	W1B9247	405600	783923	B	14010	09/01/88				
1.40 26.90	63.60 9.50	79.20	4.80	0.80	4.40	1.50			9.0	2588	
SIMCA MINING CO STRIP MINE	CLEARFIELD	W1B9224	405735	782503	B	12680	09/01/88				
0.70 20.40	63.10 16.50	72.10	4.10	5.50	0.80	1.00			9.0	2056	
SHALE HILL COAL CO STRIP	CLEARFIELD	W1B9241	405737	783505	B	11170	09/01/88				
1.40 19.00	55.90 25.10	62.90	3.50	4.50	3.10	0.90			7.5	2462	
SIMCA MINING CO STRIP MINE	CLEARFIELD	W1B9223	405738	782504	B	12830	09/01/88				
0.70 21.30	62.50 16.20	72.80	4.30	3.30	2.30	1.10			9.0	2426	
MCDONALD LAND & MINING STRIP	CLEARFIELD	W1B9250	410131	783854	B	12190	09/01/88				
1.20 25.50	55.50 19.00	69.40	4.20	3.90	2.40	1.10			4.0	2381	
MCDONALD LAND & MINING STRIP	CLEARFIELD	W1B9251	410132	783857	B	14660	09/01/88				
2.70 29.70	65.40 4.90	83.00	4.90	1.60	4.40	1.20			8.5	2138	
BENJAMIN COAL CO STRIP MINE	CLEARFIELD	W1B9243	410145	784318	B	14070	09/01/88				
1.20 30.00	61.10 8.90	79.60	5.00	1.40	3.90	1.20			8.0	2453	
BENJAMIN COAL CO STRIP MINE	CLEARFIELD	W1B9244	410146	784316	B	13820	09/01/88				
3.00 25.80	65.20 9.00	78.10	4.60	2.30	4.70	1.30			9.0	2282	
SHAWVILLE COAL CO STRIP MINE	CLEARFIELD	W1B9232	410212	782338	B	12280	09/01/88				
3.30 21.80	59.50 18.70	69.80	4.00	4.60	1.90	1.00			8.0	2183	
MCDONALD LAND & MINING STRIP	CLEARFIELD	W1B9240	410215	783901	B	13230	09/01/88				
1.50 26.20	61.00 12.80	75.50	4.40	1.90	4.20	1.20			6.0	2570	
MANOR NO 44 MINE	CLEARFIELD	W1B7046	410514	781709	B	12420	09/01/88				
1.70 40.90	45.20 13.90	70.30	5.00	6.70	3.10	1.00			5.0	2048	

## Coal Field Information Printout for: PA - Pennsylvania

Location	Volatiles	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture								Nitrogen				Free Swell	Hemi Temp
NASTASI COAL CO STRIP MINE	55.10	6.00	77.20	BUTLER				W189189	410542	794743	B	13740	09/01/88
3.30	38.90				5.20	2.90			7.10	1.60		6.5	2246
2.60	41.50	48.40	10.10	74.20	5.40	2.90		W189213	410542	794746	B	13360	09/01/88
1.70	36.50	53.80	9.70	75.10	5.10	1.60			7.00	1.50		7.5	2183
ALVIN GEARHART STRIP MINE				JEFFERSON				W189215	410555	791233	B	13540	09/01/88
2.70	35.30	61.50	3.20	81.40	5.30	1.10						8.0	2534
DEEP MINE				JEFFERSON				W18885E	410812	785224	B	12500	09/01/88
4.30	31.20	60.60	8.20	73.00	4.60	0.60			12.30	1.30		0.5	2678
STRIP MINE, STAHLMAN COAL CO				JEFFERSON				W190587	410816	791013	B	13180	09/01/88
1.90	39.30	48.30	12.40	72.40	4.90	6.20			3.00	1.10		7.0	2066
LUCAS COAL CO STRIP MINE				BUTLER				W189195	410906	794409	B	10430	09/01/88
1.10	34.20	39.40	26.40	56.50	4.30	7.40			4.40	1.00		4.5	2300
LUCAS COAL CO STRIP MINE				BUTLER				W189220	410906	794410	B	14250	09/01/88
1.90	38.30	56.30	5.40	79.00	5.40	2.40			6.40	1.40		7.0	2138
CLARION REALTY STRIP MINE				VENANCO				W190595	411245	794104	B	10130	09/01/88
2.00	36.20	38.20	25.60	56.00	4.00	13.30			0.30	0.80		5.5	2048
STRIP MINE				ELK				W188864	411706	784628	B	13410	09/01/88
1.40	35.30	54.10	10.60	74.60	5.10	1.90			6.20	1.60		0.0	2174
STRIP MINE				ELK				W188863	411708	784629	B	13790	09/01/88
1.00	38.20	53.60	8.20	76.20	5.30	3.10			5.60	1.60		0.0	2174
STRIP MINE				ELK				W188861	411935	784205	B	12920	09/01/88
2.90	31.60	58.20	10.20	74.10	4.70	0.60			9.30	1.10		0.0	2516
STRIP MINE				ELK				W188862	411937	784204	B	12860	09/01/88
1.60	30.60	57.00	12.40	72.50	4.70	0.50			8.50	1.40		0.0	2912

**Coal Field Information Printout for**

**TN - Tennessee**

## Coal Field Information Printout for: TN - Tennessee

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture	Frd Crbn	Ash	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell Hemi Temp
ALLEN COAL CO 2.90	MARION 69.20	2.50	85.30	5.30	0.80	4.50	1.60 9.0 2435
FOUR SEASONS COAL CO 2.10	GRUNDY 62.80	8.50	77.80	5.10	0.50	6.80	1.30 3.5 2804
PETROLEUMS ENERGY SERV INC 3.50	MARION 9.00	78.10	4.70	0.60	6.00	1.60	1.3750 4.5 2804
PIONEER COAL CO 1.30	BLEDSOE 10.00	75.90	5.10	2.70	5.20	1.10	1.3650 7.5 2084
SOUTHERN ENERGY RES CO 4.20	SEQUATCHIE 8.00	78.10	4.80	0.60	6.90	1.60	1.3650 5.0 2804
LUCKY CUMBERLAND COAL CO 1.70	BLEDSOE 7.10	78.00	5.00	3.40	5.10	1.40	1.4130 8.5 2165
LAMB CREEK COAL CO 1.60	BLEDSOE 19.50	68.00	4.30	1.00	5.90	1.30	1.2060 4.0 2732
SAUNDERS COAL CO 2.00	BLEDSOE 7.30	79.70	4.90	0.90	5.70	1.50	1.4140 9.0 2804
STATE PRISON FARM 39.60	LAUDERDALE 39.50	42.50	3.80	1.50	12.30	0.30	0.0 0.0 2606
JACKSON MINING CO 1.80	ANDERSON 9.80	75.10	5.10	2.10	6.10	1.80	1.3560 4.5 2606
G&B COAL CO 2.40	MORGAN 3.30	81.30	5.30	0.60	8.00	1.50	3.0 2444
MOUNTICO COAL CO 2.70	CAMPBELL 3.80	80.60	5.20	0.70	8.00	1.70	1.4390 4.5 2408
DEEP HOLLOW COAL CO 1.70	ANDERSON 5.90	5.00	80.30	5.30	1.10	6.30	2.00 5.5 2399
LITTLE T COAL CO 4.00	ANDERSON 3.50	80.90	5.20	1.00	7.70	1.70	1.4400 2.5 2264
LITTLE T COAL CO 2.50	ANDERSON 15.90	69.50	4.60	0.90	7.70	1.40	1.2410 3.5 2806
H&B MINING CO 2.50	ANDERSON 3.30	81.30	5.40	0.60	7.80	1.60	1.4500 3.5 2345

## Coal Field Information Printout for: TN - Tennessee

Location	Moisture	Volatile	Fxd Crbn	Ash	Carb.%	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Hydrogen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
						Sulfur	Oxygen				
JJ&M COAL CO	2.30	36.60	61.30	2.10	82.90	5.50	0.90	6.60	2.00	14860	09/01/88
H&W COAL CO	1.70	37.80	53.60	1.60	73.50	5.20	3.70	7.60	1.40	4.5	2408
PHILLIPS COAL CO	2.00	33.80	58.30	7.90	77.00	5.30	1.70	6.30	1.80	5.5	2075
CUMBERLAND COAL CORP	4.60	33.80	63.20	3.00	81.20	5.30	0.80	8.00	1.70	1.5	2543
PREMIUM COAL CO	2.60	39.70	57.70	2.60	77.10	5.60	0.70	11.80	2.20	4.5	09/01/88
CUMBERLAND COAL CORP	2.30	38.10	49.90	12.00	72.10	5.00	2.90	6.40	1.60	5.0	2354
QUEEN ANNE COAL CO	1.70	37.30	51.10	11.60	73.80	5.30	0.70	6.80	1.80	4.5	2552
ALROSHA COAL CO	2.60	33.70	43.70	22.60	61.10	4.40	5.30	5.30	1.30	3.5	2426
ALROSHA COAL CO	1.80	35.00	55.80	9.20	74.80	5.30	2.50	6.50	1.70	6.0	2219
EARL&RICKY COAL CO	2.70	33.20	46.70	20.10	66.10	4.30	0.90	7.20	1.40	1.5	2912
JIM POTTER COAL CO	0.70	22.30	58.60	19.10	69.20	4.40	4.50	1.60	1.20	9.0	2210
P&M COAL CO	3.00	36.80	58.10	5.10	79.20	5.40	0.60	8.20	1.50	5.5	2552
MASH INC	2.60	33.50	49.90	16.60	65.50	4.60	4.70	7.50	1.10	1.5	2480
C R LEWIS COAL CO	2.20	34.50	52.20	13.30	71.10	5.10	1.50	7.40	1.60	1.5	2138
CMC COAL CO	1.60	36.70	47.10	16.20	66.40	4.70	3.60	7.60	1.50	4.0	2183
BLACK JEWEL COAL CO	1.50	39.70	54.90	5.40	79.00	5.50	2.70	6.10	1.30	6.5	2291

## Coal Field Information Printout for: TN - Tennessee

Location Moisture	Volatile Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
		Feld Crbn	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
P&H EQUIP CO 3.90	36.40	53.60	10.00	72.60	5.00	2.90	362405 845556	1.50	4.5 09/01/88 2525
P&H COAL CO 2.90	32.10	33.50	34.40	51.50	3.90	1.60	362507 845856	0.90	9140 09/01/88 2912
HELENWOOD EXCAVATING CO 2.20	35.70	59.50	4.80	79.10	5.50	1.40	362645 843303	1.40	1.0 09/01/88 2264
P&H EQUIP CO 2.90	34.40	62.60	3.00	80.70	5.60	0.90	362659 840718	1.30	1.5 14220 09/01/88 2138
LEX MINING CO 3.00	39.40	55.10	5.50	76.30	5.50	2.70	362822 841122	1.40	5.0 13770 09/01/88 2030
BIG H COAL CO 2.90	39.50	57.80	2.70	81.10	5.70	0.70	362840 841127	1.80	4.5 14370 09/01/88 2318
DAN BRANCH COAL CO 3.00	39.80	55.70	4.50	78.40	5.30	2.30	362900 841654	2.10	5.5 14020 09/01/88 2120
DAN BRANCH COAL CO 3.40	35.30	53.10	11.60	72.10	4.90	1.40	362930 841608	1.70	2.0 12740 09/01/88 2552
FOUR LEAF COAL CO 2.30	38.00	60.40	1.60	82.80	5.60	0.50	363102 835211	2.00	5.0 14790 09/01/88 2624
METZLER COAL CO 4.40	34.50	62.60	2.90	79.50	5.20	1.70	363124 840847	1.70	2.5 14200 09/01/88 2156
JAMES SPUR COAL CO 2.10	34.70	62.50	2.80	81.90	5.50	0.80	363233 835346	1.80	5.0 14740 09/01/88 2804
DUPONT SMITH COAL CO 3.60	36.60	60.00	3.40	79.60	5.40	0.90	363235 840327	1.70	3.0 14150 09/01/88 2354
LONGWA INC 1.90	41.30	50.50	8.20	73.00	5.30	5.10	363235 842950	6.70 1.70	5.0 13430 09/01/88 2084
BURL LAMBDIN COAL CO 2.50	38.50	58.10	3.40	80.40	5.60	1.20	363249 835812	7.80 1.60	5.0 14380 09/01/88 2102
THACKER COAL CO 2.40	35.20	62.10	2.70	80.70	5.60	0.80	363320 835420	8.80 1.40	4.0 14520 09/01/88 2687
M&K COAL CO 2.00	40.30	50.70	9.00	72.60	5.00	4.40	363349 841018	7.70 1.30	4.0 13150 09/01/88 2120

## Coal Field Information Printout for: TN - Tennessee

Location	Volatile	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture		Ash			Oxygen	Nitrogen					Free Swell	Hemi Temp
SHATTUCK COAL CO	34.90	61.60	CLATBORNE	W188900	5.50	1.30	7.90	363424	835720	B	14490	09/01/88
	2.20	3.50	80.50								6.0	2408
SAM COAL CO	37.20	60.40	CLATBORNE	W193662	5.60	0.60	7.90	363437	834621	B	14680	09/01/88
	2.40	2.40	81.30								3.5	2651
SAM COAL CO	42.20	56.40	CLATBORNE	W193647	5.60	0.60	7.90	363438	834620	B	14850	09/01/88
	2.20	1.40	82.50								5.0	2714
SAM COAL CO	39.20	59.20	CLATBORNE	W193661	5.60	0.80	6.80	363443	834649	B	14950	09/01/88
	2.20	1.60	83.30								4.5	2606
DALE DAUGHERTY COAL CO	32.50	49.20	SCOTT	W188905	4.50	1.50	8.50	363533	841810	B	11800	09/01/88
	2.50	18.30	65.90								1.5	2777
ROSS COAL CO	36.50	58.00	SCOTT	W188904	5.00	5.30	8.70	363535	841800	B	13750	09/01/88
	3.00	5.50	74.00								3.0	2561

**Coal Field Information Printout for**

**TX - Texas**

## Coal Field Information Printout for: TX - Texas

Location Moisture	Volatile Fxd Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
									Hardgrove	Free Swell	Hemi Temp
29.20	44.70	38.40	MILAM	59.10	4.60	D177673	303417	970216	L	10210	09/01/88
21.50	45.80	42.70	MILAM	64.30	4.90	D177680	303440	970206	L	11070	09/01/88
25.90	48.60	40.50	MILAM	64.50	5.00	D177676	303445	970155	L	11300	09/01/88
18.60	49.50	39.40	MILAM	64.10	5.00	D177677	303514	970201	L	11270	09/01/88
27.90	44.00	38.40	MILAM	58.80	4.60	D177678	303540	970156	L	10220	09/01/88
26.00	46.90	43.20	FREESTONE	64.10	4.70	D177683	314533	960859	L	10990	09/01/88
28.50	44.80	42.90	FREESTONE	64.40	4.70	D177684	314545	960917	L	10710	09/01/88
27.90	45.50	44.00	FREESTONE	65.00	4.90	D177685	314549	960921	L	11210	09/01/88
B-2 PIT	45.50	44.00	FREESTONE	65.00	4.90	D177686	314645	960936	L	11210	09/01/88
28.50	44.80	42.90	12.30	64.40	4.70	D177687	314655	961006	L	10710	09/01/88
33.10	44.80	45.30	HARRISON	65.00	4.90	D177694	322424	942628	L	11060	09/01/88
31.90	42.80	41.30	HARRISON	64.40	4.50	D177692	322425	942627	L	10230	09/01/88
29.60	41.20	35.80	TITUS	59.70	4.30	D177696	322427	942626	L	10230	09/01/88
29.60	41.20	35.80	TITUS	55.40	4.10	D177690	331105	950513	L	9450	09/01/88
						D177688	331105	950517	L	9450	09/01/88
							15.80	1.00		0.0	2210
										0.0	2210

**Coal Field Information Printout for  
Ut - Utah**

## Coal Field Information Printout for: UT - Utah

Location Moisture	Volatile Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Nitrogen	Longitude Oxygen	Rank	Htg Val	Last Chg
Fxd Crib	Ash						Hardgrove	Free Swell	Hemi Temp		
19.90	42.60	KANE	68.80	4.70	1.70	D169559	371500	1121500	B	11910	09/01/88
20.60	40.10	KANE	68.70	4.80	1.10	D169765	371500	1122230	B	12000	09/01/88
19.00	36.40	KANE	68.30	4.40	0.60	D183136	372220	1122040	B	11730	09/01/88
23.40	36.70	KANE	58.90	4.30	4.60	D183134	372455	1121215	B	10530	09/01/88
24.40	36.60	GARFIELD	56.70	4.10	0.80	D183137	373310	1120910	B	9830	09/01/88
25.90	36.00	GARFIELD	65.80	4.50	2.20	D183138	373320	1120855	B	11440	09/01/88
14.70	32.10	GARFIELD	51.50	3.80	0.50	D183139	375650	1105850	B	9040	09/01/88
9.50	38.70	GARFIELD	66.90	4.60	0.80	D178173	380706	1105758	B	11580	09/01/88
4.90	35.20	WAYNE	65.50	4.70	2.70	D178172	382828	1105440	B	11480	09/01/88
8.30	37.20	WAYNE	65.80	4.80	1.70	D183141	382910	1105430	B	11620	09/01/88
11.90	39.30	SEVIER	67.90	4.90	2.60	D178166	383340	1112705	B	0.0	2174
13.70	29.70	SEVIER	43.50	3.50	0.70	D178169	384220	11112800	B	0.0	2678
7.70	41.80	SEVIER	39.80	4.30	0.50	D178166	383340	1111505	B	0.0	2030
5.40	40.80	GRAND	70.20	5.10	0.70	D173479	384456	1112500	B	7460	09/01/88
4.30	41.00	EMERY	72.00	5.40	0.60	D176980	390225	1094335	B	11520	09/01/88
3.20	40.70	EMERY	73.00	5.10	1.20	D175518	384615	1111505	B	12890	09/01/88
7.70	42.60	SEVIER	65.50	4.70	0.90	D174676	384456	111210	1.20	1.0	2093
W AMER ENERGY CORP	47.60	CONVULSION CANYON MINE	11.60	5.10	0.70	D173479	391136	1111310	B	12460	09/01/88
										0.0	2246
										1.0	2192

## Coal Field Information Printout for: UT - Utah

Location Moisture	Volatile Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Nitrogen	Hardgrove	Free Swell	Hemi Temp	
2.30	45.30	46.70	8.00	73.90	5.90	0.80	3917976	1111420	B	13380	09/01/88
		EMERY						10.60	0.80	1.0	2111
5.20	44.60	48.10	7.30	74.10	5.30	0.50	D174672	391905	B	13210	09/01/88
		EMERY						11.30	1.50	1.5	2354
3.10	43.50	46.70	9.80	72.10	5.40	0.50	D180000	391907	B	13000	09/01/88
		EMERY						10.80	1.40	1.0	2219
3.50	43.40	46.80	9.80	72.00	5.30	0.50	D178171	391910	B	12910	09/01/88
		EMERY						11.50	0.90	1.0	2192
4.60	43.50	48.70	7.80	73.80	5.40	0.50	D180005	391925	B	13270	09/01/88
		EMERY						11.00	1.50	1.0	2372
3.20	39.70	44.40	15.90	67.00	5.10	0.60	D178159	391940	B	12010	09/01/88
		EMERY						10.30	1.10	1.5	2543
3.70	45.70	48.70	5.60	76.20	5.70	0.50	D174669	392125	B	13780	09/01/88
		EMERY						10.50	1.50	1.5	2129
3.00	45.40	43.80	10.80	71.90	5.70	0.80	D178155	392210	B	12940	09/01/88
		EMERY						9.50	1.30	1.0	2453
3.60	43.60	52.70	3.70	77.00	5.70	0.60	D178149	392455	B	13970	09/01/88
		EMERY						11.90	1.10	2.5	2129
6.10	47.70	46.10	6.20	76.00	5.60	0.50	D17-379	392505	B	13750	09/01/88
		EMERY						10.30	1.40	2.5	2246
5.30	39.60	52.80	7.60	75.30	5.20	1.10	D173474	392740	B	13440	09/01/88
		EMERY						9.20	1.60	0.0	0
KING MINE							D174664	392750	B	13530	09/01/88
4.80	48.80	44.90	6.30	74.90	5.40	0.50		11.40	1.50	2.0	2102
5.70	40.40	41.90	17.70	64.50	4.80	0.70	D174666	393125	B	11540	09/01/88
		CARBON						10.90	1.40	1.5	2408
SUNNYSIDE MINE NO 1		CARBON					D173473	393540	B	13780	09/01/88
3.00	40.20	54.10	5.70	77.60	5.30	1.20		8.60	1.60	0.0	0
STAR POINT NO 1 MINE		CARBON					D174663	394128	B	13360	09/01/88
								11.00	1.50	1.5	2183
							D173472	394135	B	13550	09/01/88
VALLEY CAMP MINE		CARBON						12.40	1.60	0.0	0
6.50	49.50	46.50	4.00	75.70	5.60	0.70					

## Coal Field Information Printout for: UT - Utah

Location Moisture	Volatile Carbon	Frd Crbn Ash	County CARBON	Carbon Hydrogen Sulfur	Code Number D176984	Latitude 394201	Longitude 1103645	Rank B	Htg Val 12900	Last Chg 09/01/88
2.20 2.80	36.90 45.20	55.00 44.80	8.10 10.00	74.00 72.30	5.10 5.40	0.60 0.60	11.40 10.20	0.80 1.50	1.0 0.0	2417 0
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CARBON FUEL CO NO 3 MINE	CARBON		D173476		394244	1105351	B	13010	09/01/88	
2.80	45.20	44.80	10.00	72.30	5.40	0.60	10.20	1.50	0.0	0
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DAGGETT			D166185		405230	1094500	B	9240	09/01/88	
6.70	35.20	43.10	21.70	56.80	3.40	0.50	16.70	0.90	0.0	0

**Coal Field Information Printout for**

**VA - Virginia**

## Coal Field Information Printout for: VA - Virginia

Location	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture							Oxygen	Nitrogen	Hardgrove	Frcs Swell	Hemi Temp	
UNDERGROUND MINE		LEE	9.40	74.30	5.00	4.20	W226970	364644	830638	B	13370	09/01/88
2.20	39.20	51.40									3.5	1994
DRILL CORE		LEE	8.80	76.50	5.00	0.70	W229548	364905	830008	B	13580	09/01/88
5.10	34.70	56.50									4.0	2804
DRILL CORE		LEE	12.50	73.10	4.90	1.40	W219345	364918	825604	B	12950	09/01/88
2.10	33.60	53.90										2696
DRILL CORE		LEE	5.10	80.90	5.20	0.70	W219403	365011	825138	B	14400	09/01/88
2.90	36.30	58.60									5.0	2393
UNDERGROUND MINE		LEE	10.20	72.50	5.10	3.90	W226971	365012	825739	B	13200	09/01/88
4.70	40.60	49.20									4.0	2030
DRILL CORE		LEE	3.10	83.20	5.50	0.70	W219348	365113	825134	B	14850	09/01/88
2.50	38.60	58.30									7.0	2606
DRILL CORE		SCOTT	9.60	73.40	4.90	5.70	W219349	365117	823629	B	13560	09/01/88
1.40	41.50	48.90									4.5	1958
SURFACE MINE		LEE	4.80	80.40	5.40	0.60	W195439	365159	825533	B	14800	09/01/88
3.40	37.30	57.90									5.5	2651
SURFACE MINE		WISE	9.60	76.60	4.90	0.80	W194854	365300	824916	B	13580	09/01/88
3.60	34.50	55.90									5.5	2804
UNDERGROUND		WISE	9.50	76.70	5.20	0.70	W205192	365305	825203	B	13680	09/01/88
3.40	35.50	55.00									5.5	2804
UNDERGROUND		WISE	4.60	81.00	5.00	0.60	W205193	365331	825212	B	14530	09/01/88
2.30	38.80	56.60									6.0	2804
UNDERGROUND		WISE	16.40	70.80	4.80	0.80	W205190	365400	824739	B	12580	09/01/88
2.00	33.00	50.60									6.0	2804
SURFACE MINE		WISE	10.80	74.90	5.00	5.00	W192590	365411	822133	B	13700	09/01/88
2.60	34.80	54.40									7.0	2192
SURFACE MINE		WISE	15.20	72.10	4.60	1.20	W193664	365411	822140	B	12730	09/01/88
1.50	33.40	51.40									6.0	2300
SURFACE MINE		WISE	9.80	77.40	4.80	0.80	W197301	365422	822417	B	13780	09/01/88
2.20	33.70	56.50									7.0	2678
UNDERGROUND		WISE	12.60	74.50	4.90	1.20	W205191	365458	824949	B	13330	09/01/88
1.50	33.60	53.80									6.0	2759

## Coal Field Information Printout for: VA - Virginia

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE		WISE		W2033B4	0.90	4.90	5.00	365506	822054	B
3.60	22.20	66.60	11.20	76.50	4.70	1.10	5.10	1.50	1.50	13450 6.5 09/01/88 2507
UNDERGROUND MINE		WISE		W215446	0.80	4.80	5.00	365520	822058	B
1.60	32.40	53.40	14.20	73.40	4.70	1.10	5.10	1.50	1.50	13000 6.5 09/01/88 2678
SURFACE MINE		WISE		W192697	0.80	4.80	5.00	365527	822111	B
3.00	32.70	57.10	10.20	76.50	4.70	1.10	5.10	1.40	1.40	13530 4.0 09/01/88 2309
SURFACE MINE		WISE		W198542	0.80	5.30	1.60	365542	824108	B
1.90	38.30	55.90	5.80	79.80	5.30	1.60	5.90	1.60	1.60	14240 6.5 09/01/88 2183
SURFACE MINE		WISE		W2033B5	0.80	4.70	6.10	365555	824238	B
3.30	32.90	50.60	16.50	70.60	5.30	1.60	5.90	1.60	1.30	12540 6.5 09/01/88 2812
SURFACE MINE		WISE		W194855	0.60	5.30	5.90	365600	824847	B
2.80	36.30	60.50	3.20	83.50	5.30	0.60	5.90	1.50	1.50	14890 6.5 09/01/88 2543
UNDERGROUND MINE		WISE		W214248	0.60	5.20	0.60	365615	824913	B
1.40	34.20	60.10	5.70	81.00	5.20	0.60	5.90	1.60	1.60	14410 8.5 09/01/88 2804
UNDERGROUND MINE		WISE		W214244	0.50	4.90	5.00	365630	824815	B
1.70	32.60	58.20	9.20	77.70	4.90	0.50	6.20	1.50	1.50	13780 8.0 09/01/88 2579
SURFACE MINE		WISE		W202130	0.90	2.90	5.50	365632	824007	B
3.00	35.30	55.50	9.20	76.10	5.00	2.90	5.50	1.30	1.30	13800 8.5 09/01/88 2300
SURFACE MINE		WISE		W194411	0.90	5.10	6.30	365633	823620	B
3.80	35.00	62.60	2.40	83.60	5.10	0.90	6.30	1.70	1.70	14990 8.5 09/01/88 2156
SURFACE MINE		WISE		W200484	0.80	5.30	5.70	365707	823612	B
4.00	33.40	61.00	5.60	80.90	5.30	0.80	5.70	1.70	1.70	14400 8.0 09/01/88 2912
SURFACE MINE		WISE		W196289	0.70	5.40	5.30	365709	823618	B
2.40	35.00	60.00	5.00	81.90	5.40	0.70	5.30	1.70	1.70	14700 9.0 09/01/88 2651
UNDERGROUND MINE		WISE		W214247	0.80	5.00	6.10	365709	825023	B
1.60	33.20	58.70	8.10	78.40	5.00	0.80	6.10	1.60	1.60	13900 8.0 09/01/88 2777
UNDERGROUND MINE		WISE		W214246	0.70	5.30	5.70	365714	824820	B
1.20	35.60	60.00	4.40	82.30	5.30	0.70	5.70	1.60	1.60	14690 8.0 09/01/88 2723
SURFACE MINE		WISE		W191066	0.90	5.20	6.20	365715	823234	B
2.30	33.80	57.60	8.60	77.60	5.20	0.90	6.20	1.50	1.50	13920 9.0 09/01/88 2732
SURFACE MINE		WISE		W191335	1.10	5.50	6.40	365715	823238	B
3.40	36.20	61.20	2.60	83.20	5.50	1.10	6.40	1.20	1.20	14760 9.0 09/01/88 2129

## Coal Field Information Printout for: VA - Virginia

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
SURFACE MINE			WISE		W192603	5.50	2.20	3.65717	823256	B	14390	09/01/84		
3.70	36.20	58.60	5.20	79.90	5.30	1.10	6.30	5.70	1.50		9.0	2111		
SURFACE MINE			WISE		W208044	5.30	0.50	3.65719	824217	B	14320	09/01/84		
3.90	36.20	58.10	5.70	80.00	5.50	0.50	6.00	5.70	1.60		9.0	2651		
SURFACE MINE			WISE		W200485	5.50	0.50	3.65721	823628	B	14710	09/01/84		
1.30	38.70	57.10	4.20	82.10	5.50	0.50	6.00	5.70	1.70		6.5	2111		
SURFACE			WISE		W203387	5.20	0.80	3.65722	824147	B	13500	09/01/84		
3.80	34.70	53.90	11.40	75.50	5.60	2.70	5.60	5.60	1.50		8.0	2912		
SURFACE MINE			WISE		W196283	5.60	2.70	3.65723	824104	B	14310	09/01/84		
3.90	38.60	55.20	6.20	78.90	5.60	2.70	5.10	5.10	1.50		9.0	2219		
UNDERGROUND			WISE		W205195	5.30	0.90	3.65734	825121	B	13830	09/01/84		
2.20	36.70	54.40	8.90	76.70	5.30	0.90	6.50	6.50	1.70		5.5	2804		
UNDERGROUND MINE			RUSSELL		W192708	4.60	0.60	3.65741	821442	B	13000	09/01/84		
1.20	31.70	54.30	14.00	73.60	4.60	0.60	5.80	5.80	1.40		5.0	2345		
SURFACE MINE			WISE		W195467	5.30	0.90	3.65759	823555	B	14920	09/01/84		
2.90	36.10	61.00	2.90	44.20	5.30	0.90	5.20	5.20	1.50		8.0	2237		
SURFACE MINE			WISE		W191068	5.30	3.20	3.65806	824042	B	14390	09/01/84		
1.90	37.20	57.20	5.60	78.90	5.30	3.20	5.60	5.60	1.40		9.0	2102		
SURFACE			WISE		W202129	5.20	0.90	3.65815	822424	B	14290	09/01/84		
3.90	35.80	57.60	6.60	80.30	5.20	0.90	5.50	5.50	1.50		8.5	2183		
SURFACE MINE			WISE		W196284	4.90	0.90	3.65818	824139	B	13320	09/01/84		
3.60	32.60	54.40	13.00	74.50	4.90	0.90	5.40	5.40	1.30		7.5	2804		
SURFACE MINE			WISE		W196288	5.10	0.60	3.65820	823219	B	14000	09/01/84		
2.90	34.20	57.40	8.40	78.30	5.06	1.20	6.10	6.10	1.50		9.0	2804		
SURFACE MINE			WISE		W191065	5.60	0.60	3.65821	823942	B	14420	09/01/84		
1.30	35.70	57.90	6.40	80.30	5.60	0.60	5.40	5.40	1.70		9.0	2534		
SURFACE MINE			WISE		W193663	5.06	1.20	3.65822	824017	B	13480	09/01/84		
1.50	34.00	54.10	11.90	75.50	5.00	2.40	5.30	5.30	1.40		5.5	2669		
SURFACE MINE			WISE		W192599	5.00	2.40	3.65825	823234	B	13150	09/01/84		
2.40	30.90	56.40	12.70	73.20	5.20	1.50	3.65827	823227	B	14180	09/01/84			
SURFACE MINE			WISE		W191064	5.20	1.50	5.80	5.80	1.50		9.0	2498	
2.00	33.30	59.90	6.80	79.20	5.20	1.50						2030		

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Longitude	Rank	Htg Val	Last Chg
SURFACE MINE					WISE	W192587				823234	B	14300	09/01/88	
2.30	33.20	59.80	7.00	77.20		5.30	0.90		7.90	1.70		9.0	2696	
SURFACE MINE					WISE	W229077				823155	B	14870	09/01/88	
2.60	32.80	63.70	3.50	83.40		5.30	0.70		5.60	1.50		8.0	2642	
SURFACE MINE					WISE	W192604				8235832	B	14510	09/01/88	
4.30	33.80	61.10	5.10	81.30		5.40	1.10		5.40	1.70		9.0	2606	
SURFACE MINE					WISE	W191063				8235837	B	14140	09/01/88	
2.60	35.70	57.80	6.50	78.20		5.10	3.20		5.60	1.40		9.0	2147	
UNDERGROUND MINE					WISE	W214254				8235838	B	13940	09/01/88	
1.60	33.10	58.80	8.10	78.70		5.00	0.80		6.00	1.40		8.5	2804	
UNDERGROUND MINE					WISE	W214252				824655	B	14420	09/01/88	
1.80	33.70	61.40	4.90	81.70		5.20	0.70		6.00	1.50		7.5	2642	
UNDERGROUND MINE					RUSSELL	W192706				821200	B	12710	09/01/88	
1.60	28.60	55.00	16.40	72.40		4.50	0.60		4.80	1.30		6.5	2552	
SURFACE MINE					WISE	W215874				823258	B	14770	09/01/88	
3.80	34.10	62.10	3.80	83.00		5.20	0.70		5.60	1.70		8.5	2678	
SURFACE MINE					WISE	W229079				823229	B	13600	09/01/88	
1.80	33.40	54.10	12.50	75.60		4.90	2.00		3.50	1.50		7.0	2426	
SURFACE MINE					WISE	W203388				822541	B	12840	09/01/88	
3.50	32.50	52.00	15.50	71.90		5.00	1.10		4.90	1.60		8.5	2516	
SURFACE MINE					WISE	W194853				824254	B	13730	09/01/88	
2.10	35.20	54.10	10.70	76.70		5.10	0.70		5.40	1.40		8.0	2804	
SURFACE MINE					WISE	W229078				823157	B	14070	09/01/88	
3.10	33.50	58.20	8.30	79.00		5.20	0.60		5.30	1.60		8.0	2750	
UNDERGROUND MINE					WISE	W214249				825856	B	13440	09/01/88	
1.10	34.40	53.90	11.70	75.40		4.80	0.80		5.90	1.40		6.5	2804	
SURFACE MINE					WISE	W199468				823115	B	14460	09/01/88	
3.00	32.50	61.70	5.80	81.30		5.10	1.10		5.20	1.50		7.5	2543	
UNDERGROUND MINE					WISE	W205196				825003	B	14390	09/01/88	
2.90	35.60	59.30	5.10	81.40		5.20	0.60		6.10	1.60		5.0	2804	
SURFACE MINE					WISE	W236237				823849	B	14570	09/01/88	
3.30	35.30	58.10	5.60	81.70		5.20	0.70		5.20	1.60		7.0	2804	

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Voltiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SURFACE MINE	4.50	30.70	52.30	17.00	69.00	W192586	4.60	2.80	355913	823249	B	12430	09/01/88	
UNDERGROUND MINE	1.60	32.00	61.80	6.20	B2.90	W197303	5.00	0.50	365914	821422	B	14580	09/01/88	
SURFACE MINE	6.20	34.30	57.60	8.10	79.40	W191134	5.20	0.70	365915	823250	B	14210	09/01/88	
SURFACE MINE	3.90	33.50	64.30	2.20	84.50	W192601	5.60	0.50	365916	823252	B	15080	09/01/88	
UNDERGROUND MINE	1.80	37.40	58.40	4.20	81.40	W214255	5.30	0.70	365917	824823	B	14450	09/01/88	
SURFACE MINE	2.80	32.50	65.20	2.30	85.00	W199466	5.30	1.30	365918	824708	B	5.0	2678	
UNDERGROUND MINE	1.50	34.90	60.80	4.30	82.60	W214256	5.30	0.70	365918	824708	B	7.5	2633	
SURFACE MINE	1.70	34.40	54.20	11.40	74.10	W196267	4.90	5.30	365925	823324	B	13360	09/01/88	
SURFACE MINE	2.30	33.80	59.90	6.30	80.20	W194852	5.20	2.60	365928	823323	B	14450	09/01/88	
SURFACE MINE	2.60	32.30	63.80	3.90	82.60	W192588	5.20	1.20	365929	823034	B	14750	09/01/88	
SURFACE MINE	3.90	36.40	57.30	6.30	79.50	W191332	5.20	3.10	4.90	1.00	1.70	9.0	2111	
SURFACE MINE	5.50	32.80	61.40	5.80	81.60	W194412	5.20	0.60	5.10	1.70		8.5	2210	
SURFACE MINE	2.30	30.60	51.80	17.60	70.80	W195445	4.70	1.00	4.60	1.30		0.0	2804	
SURFACE MINE	1.40	34.60	61.60	3.80	82.70	W191328	5.30	0.60	6.10	1.50		8.5	2597	
SURFACE MINE	3.50	35.60	60.70	3.70	82.00	W191337	5.40	1.10	365935	823056	B	14610	09/01/88	
UNDERGROUND MINE	1.50	35.20	61.20	3.60	82.90	W214253	5.30	0.50	365936	824706	B	14660	09/01/88	
												8.5	2543	

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SURFACE MINE			RUSSELL		W192606			365941	821106	B	12260	09/01/88	
2.40	28.60	51.60	19.80	68.90	4.60	0.80		4.50	1.40		7.5	2507	
UNDERGROUND MINE			WISE		W225109			365943	823942	B	14760	09/01/88	
1.50	34.20	61.90	3.90	82.70	5.10	0.80		5.70	1.80		8.5	2624	
UNDERGROUND MINE			WISE		W204163			365946	824930	B	13910	09/01/88	
3.50	34.70	58.30	7.00	79.10	5.00	0.60		6.60	1.70		4.5	2723	
SURFACE MINE			WISE		W229550			365951	823333	B	14410	09/01/88	
4.20	32.20	61.10	6.70	81.00	5.00	0.90		4.80	1.60		8.5	2633	
SURFACE MINE			WISE		W191135			365955	823516	B	13420	09/01/88	
2.90	33.20	55.10	11.70	74.40	4.80	2.90		4.70	1.50		7.5	2264	
SURFACE MINE			WISE		W192602			365956	823516	B	13910	09/01/88	
2.90	30.80	59.90	9.30	78.00	5.20	0.80		5.20	1.50		8.0	2804	
SURFACE MINE			WISE		W204157			365957	822952	B	14580	09/01/88	
2.70	32.20	63.00	4.80	82.60	5.10	0.80		5.10	1.60		9.0	2759	
UNDERGROUND MINE			RUSSELL		W192709			370001	821107	B	13510	09/01/88	
1.80	29.70	57.90	12.40	76.60	4.80	0.60		4.30	1.30		0.0	2381	
UNDERGROUND MINE			DICKENSON		W210394			370005	821937	B	13860	09/01/88	
1.90	34.10	56.10	9.80	76.90	5.20	1.80		4.90	1.40		8.5	2093	
SURFACE MINE			WISE		W192591			370007	823331	B	13490	09/01/88	
11.00	31.70	60.80	7.50	77.40	4.80	1.00		7.70	1.60		2.0	2399	
SURFACE MINE			WISE		W191136			370009	823331	B	14930	09/01/88	
6.40	33.30	63.70	3.00	83.80	5.30	0.70		5.60	1.60		9.0	2912	
SURFACE MINE			WISE		W191334			370012	823245	B	13490	09/01/88	
1.50	34.00	55.40	10.60	74.60	4.90	4.50		4.20	1.20		9.0	2201	
UNDERGROUND MINE			WISE		W231B31			370014	823400	B	13770	09/01/88	
2.80	32.00	57.70	10.30	77.00	4.90	1.00		5.20	1.60		8.5	2273	
SURFACE MINE			DICKENSON		W192704			370016	822252	B	11420	09/01/88	
2.40	26.00	49.50	24.50	64.60	4.20	0.70		4.60	1.40		9.0	2489	
UNDERGROUND MINE			DICKENSON		W210395			370018	822003	B	14180	09/01/88	
3.00	35.90	56.80	7.30	77.30	5.20	4.20		4.60	1.40		8.5	2048	
SURFACE			WISE		W204164			370021	824719	B	13990	09/01/88	
2.20	35.30	57.70	7.00	79.30	5.20	0.70		6.20	1.60		5.0	2804	

## Coal Field Information Printout for: VA - Virginia

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
UNDERGROUND MINE 1.60	30.50	54.00	15.50	73.40	4.70	0.80	4.20	1.40	B	13060 7.5	09/01/88 2381
UNDERGROUND MINE 2.00	32.40	58.40	9.20	78.70	5.30	0.70	4.70	1.40	B	13900 8.0	09/01/88 2354
SURFACE MINE 1.20	34.60	60.90	4.50	52.00	5.10	0.80	5.80	1.80	B	14740 7.5	09/01/88 2804
RUSSELL 1.20	31.60	58.90	9.50	79.00	5.00	0.70	4.40	1.40	B	13950 0.0	09/01/88 0
UNDERGROUND MINE 1.30	45.10	47.90	7.00	81.10	5.10	0.80	4.40	1.60	B	14460 8.0	09/01/88 2219
SURFACE MINE 3.60	38.20	55.90	5.90	80.10	5.50	0.80	6.00	1.70	B	14400 8.5	09/01/88 2804
SURFACE MINE 3.90	31.50	63.20	5.30	81.90	5.30	0.90	4.80	1.80	B	14630 9.0	09/01/88 2804
SURFACE MINE 6.00	30.00	60.70	9.30	76.40	4.80	3.50	4.40	1.60	B	13630 9.0	09/01/88 2084
UNDERGROUND MINE 2.00	32.30	61.30	6.40	81.50	5.00	0.60	5.00	1.50	B	14530 8.0	09/01/88 2579
SURFACE MINE 1.90	33.80	62.70	3.50	83.70	5.20	0.80	5.10	1.70	B	14900 8.5	09/01/88 2768
SURFACE MINE 3.40	33.90	51.60	14.50	72.50	5.00	1.20	5.40	1.40	B	12950 8.5	09/01/88 2804
UNDERGROUND MINE 2.60	23.20	46.40	30.40	59.80	3.80	0.50	4.30	1.20	B	10470 5.0	09/01/88 2777
SURFACE MINE 3.70	32.10	59.20	8.70	77.90	5.50	1.00	5.30	1.60	B	13990 8.5	09/01/88 2291
SURFACE 3.30	33.70	62.60	3.70	84.60	5.20	0.60	4.30	1.60	B	14860 8.0	09/01/88 2246
SURFACE MINE 3.20	34.10	62.60	3.30	83.70	5.20	0.80	5.30	1.70	B	14930 8.5	09/01/88 2543
SURFACE MINE 6.90	32.70	63.50	3.80	84.20	5.20	0.60	4.60	1.60	B	14910 8.0	09/01/88 2804

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrog <sub>1</sub>	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
RUSSELL	2.00	31.10	56.10	12.80	74.00	4.50	0.60	D161636	370120	821129	B	13100	09/01/88
SURFACE MINE	2.70	33.70	63.00	3.30	82.20	5.40	1.10	W192612	370131	821527	B	14710	09/01/88
UNDERGROUND MINE	1.50	33.60	51.30	15.10	71.70	4.90	2.20	W210401	370133	821252	B	13030	09/01/88
UNDERGROUND MINE	3.80	33.50	59.70	6.80	80.70	5.70	0.80	W210402	370135	821239	B	14470	09/01/88
UNDERGROUND MINE	1.80	30.80	65.00	4.20	83.90	5.00	0.80	W211594	370137	820834	B	14800	09/01/88
SURFACE MINE	4.60	28.60	62.50	8.90	78.20	4.80	0.70	W192607	370140	820819	B	8.5	2471
UNDERGROUND MINE	3.30	44.40	33.20	22.40	66.90	4.30	0.70	W210399	370140	822031	B	13770	09/01/88
UNDERGROUND MINE	1.80	32.30	58.70	9.00	78.40	5.00	0.80	W211597	370141	820803	B	7.5	2417
SURFACE MINE	4.30	31.80	63.60	4.60	83.40	5.40	1.00	W195444	370142	822816	B	14900	09/01/88
UNDERGROUND MINE	2.40	31.20	61.50	7.30	80.80	5.30	0.80	W210400	370143	821611	B	14420	09/01/88
SURFACE MINE	13.00	29.00	58.80	12.20	67.80	3.50	0.60	D161627	370145	820828	B	11080	09/01/88
UNDERGROUND MINE	1.40	33.10	57.30	9.60	77.50	5.00	0.50	D161634	370145	821054	B	13720	09/01/88
SURFACE MINE	4.40	28.80	62.20	9.00	78.40	4.80	1.00	W192592	370147	823536	B	14020	09/01/88
RUSSELL	1.10	31.20	62.80	6.00	82.40	5.00	0.80	D161626	370149	820840	B	14550	09/01/88
UNDERGROUND MINE	2.00	30.20	60.50	9.30	78.50	5.10	1.00	W210393	370149	822008	B	14100	09/01/88
SURFACE MINE	2.30	31.10	62.60	6.30	81.30	4.80	0.80	W197300	370149	823425	B	14490	09/01/88

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SURFACE	2.20	33.50	53.50	13.00	73.20	4.90	4.60	2.90	W203393	370149	823740	B	13330	09/01/88
SURFACE MINE	2.70	32.90	55.20	11.90	74.60	4.80	2.50	5.30	W191330	370151	823534	B	13390	09/01/88
UNDERGROUND MINE	2.10	35.00	52.90	12.10	74.30	5.00	1.30	5.60	W211678	370154	823358	B	13240	09/01/88
SURFACE MINE	3.90	35.70	53.40	10.90	74.80	5.00	3.40	4.70	W191338	370155	823519	B	13510	09/01/88
SURFACE MINE	4.10	31.50	60.60	7.90	79.40	5.30	0.90	4.80	W192505	370156	823519	B	14110	09/01/88
SURFACE MINE	3.50	32.00	50.40	17.60	69.40	4.60	0.80	6.10	W195442	370202	824347	B	8.5	2588
SURFACE MINE	2.60	28.70	E3.50	7.80	80.40	5.00	1.20	4.00	W192698	370215	822853	B	14360	09/01/88
UNDERGROUND MINE	2.20	29.00	59.50	11.50	75.90	4.90	1.10	5.20	R210396	370218	821723	B	9.0	2660
KISER RIDGE STRIP MINE	1.80	34.00	63.10	2.90	83.20	5.30	1.10	5.80	D165679	370220	821455	B	13580	09/01/88
KISER RIDGE STRIP MINE	1.90	32.20	58.60	9.20	78.80	4.90	0.80	4.70	D165678	370220	621457	B	14770	09/01/88
UNDERGROUND MINE	2.50	28.90	57.90	13.20	74.70	4.70	1.10	4.90	W209962	370220	821834	B	0.0	0
SURFACE MINE	2.10	34.00	62.50	3.50	83.10	5.30	0.80	5.70	W211674	370221	821431	B	13330	09/01/88
SURFACE MINE	5.50	35.70	57.70	6.60	79.40	5.20	1.30	6.00	W200485	370224	824223	B	14010	09/01/88
UNDERGROUND MINE	1.40	32.30	59.30	8.40	80.00	5.00	0.50	4.70	D161629	370228	821122	B	4.5	2417
SURFACE MINE	1.40	38.40	59.10	2.50	84.60	5.00	0.80	5.20	W236243	370233	824114	B	15120	09/01/88
UNDERGROUND MINE	3.80	31.60	60.40	8.00	78.90	4.90	2.30	4.20	W231836	370239	823340	B	5.0	2534
													14180	09/01/88
													8.0	2543

## Coal Field Information Printout for: VA - Virginia

Location	Volatiles	Fxd Crbn	Ash	Carbcoa	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
Moisture								Nitrogen	Hardgrove	Free Swell	Hemi Temp		
SURFACE	2.80	29.60	59.80	10.60	78.40	4.90	0.90	3.90	370246	822858	B	13920	09/01/88 2912
SURFACE MINE	5.60	35.00	60.60	4.40	80.40	5.20	1.90	6.80	370248	824105	B	14360	09/01/88 2084
SURFACE MINE	1.10	37.70	58.90	WISE	83.40	5.30	0.80	5.60	370254	824113	B	14910	09/01/88 2741
UNDERGROUND MINE	1.60	32.40	62.80	DICKENSON	83.20	5.20	0.80	4.30	370257	821158	B	14790	09/01/88 2417
SURFACE MINE	2.20	29.60	54.40	DICKENSON	72.50	4.70	0.60	4.80	370259	821436	B	12840	09/01/88 2804
SURFACE	4.00	26.70	59.30	DICKENSON	75.10	4.50	0.60	4.30	370303	820922	B	13270	09/01/88 2804
	4.90	34.00	60.40	WISE	80.40	5.30	1.70	5.80	370306	823800	B	14420	09/01/88 2399
SURFACE MINE	4.30	37.40	59.60	WISE	83.40	5.50	0.90	6.10	370307	823759	B	14930	09/01/88 2588
UNDERGROUND MINE	2.20	29.20	54.70	WISE	71.70	4.40	0.70	5.90	370308	823711	B	12710	09/01/88 2804
DEEP MINE	3.20	33.80	49.30	RUSSELL	69.60	4.30	0.70	7.40	370311	815906	B	12420	09/01/88 2750
SURFACE MINE	1.70	34.30	56.40	WISE	77.80	5.00	1.10	5.40	370313	823855	B	13860	09/01/88 2804
SURFACE MINE	1.80	26.30	56.80	DICKENSON	69.60	4.30	0.70	7.40	370318	822153	B	12960	09/01/88 2615
SURFACE MINE	3.40	32.70	61.70	WISE	80.90	5.10	1.60	5.40	370319	823246	B	14620	09/01/88 2417
SURFACE	3.10	33.60	55.40	WISE	75.80	5.10	2.10	5.60	370327	823829	B	13620	09/01/88 2552
UNDERGROUND MINE	3.30	26.50	57.60	DICKENSON	73.30	4.40	0.80	4.40	370328	820827	B	12940	09/01/88 2624
UNDERGROUND MINE	2.40	31.00	64.60	WISE	82.80	5.00	0.70	5.40	370332	823303	B	14740	09/01/88 2804

## Coal Field Information Printout for: VA - Virginia

Location Moisture	Volatile Ash	Fxd Crbn	County	Code Number	Latitude Nitrogen	Longitude Hardgrove	Rank	Htg Val	Last Chg
			Carbon	Hydrogen Sulfur	Oxygen				
SURFACE MINE		DICKENSON	W1911543	370336	822724	B	14420	09/01/88	2912
4.10	30.40	62.40	7.20	81.80	4.90	0.70	3.80	1.60	6.5
UNDERGROUND MINE		DICKENSON	W211170	370337	821317	B	11490	09/01/88	2669
2.00	23.40	51.50	25.10	84.90	4.00	0.50	4.30	1.20	8.0
UNDERGROUND MINE		WISE	W223354	370345	824628	B	14300	09/01/88	2624
1.90	34.20	59.40	6.40	80.50	5.20	1.10	5.40	1.40	
SURFACE MINE		WISE	W229080	370401	824210	B	14390	09/01/88	2030
1.70	38.30	55.70	6.00	79.80	5.30	2.50	4.90	1.50	6.5
SURFACE MINE		WISE	W226976	370404	823728	B	12570	09/01/88	2318
17.70	33.50	60.60	5.90	75.00	4.20	0.70	12.50	1.70	0.0
SURFACE MINE		WISE	W226977	370404	823730	B	13980	09/01/88	2804
1.80	32.50	58.50	9.00	78.30	5.10	0.90	5.00	1.70	7.5
SURFACE MINE		RUSSELL	W193935	370411	815845	B	12800	09/01/88	2642
3.30	29.00	55.40	15.60	72.80	4.50	1.70	4.40	1.00	
2.20	37.20	57.70	5.10	82.00	5.10	0.80	370421	815655	09/01/88
SURFACE MINE		WISE	W230482	370421	823206	B	15230	09/01/88	2093
2.30	32.50	65.00	2.50	85.40	5.30	0.60	4.60	1.60	7.5
UNDERGROUND MINE		DICKENSON	W211169	370424	820945	B	12440	09/01/88	2804
1.80	23.80	57.60	18.60	71.30	4.30	0.60	4.00	1.20	9.0
UNDERGROUND MINE		WISE	W223994	370426	823145	B	14450	09/01/88	2804
2.20	30.90	83.20	5.90	81.70	4.40	0.80	5.60	1.60	8.5
UNDERGROUND MINE		DICKENSON	W197308	370429	821001	B	13950	09/01/88	2678
2.60	25.60	64.70	9.70	80.60	4.50	0.70	3.00	1.50	
UNDERGROUND MINE		WISE	W213995	370429	823146	B	14500	09/01/88	2732
2.00	31.70	62.60	5.70	81.00	4.80	0.90	6.00	1.60	9.0
SURFACE MINE		WISE	W229549	370445	823118	B	15340	09/01/88	2417
6.00	33.80	64.90	1.30	86.40	5.40	0.90	4.40	1.60	9.0
DEEP MINE, H COAL CO		RUSSELL	W187056	370447	815550	B	14160	09/01/88	2138
11.50	37.90	57.60	4.50	80.60	5.10	0.50	7.90	1.40	0.5
UNDERGROUND MINE		DICKENSON	W211171	370452	821331	B	11370	09/01/88	2804
1.50	20.10	54.40	25.50	65.10	3.90	0.60	3.80	1.10	7.5

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND MINE					BUCHANAN			W213993	370457	820204	B	14810	09/01/88
2.30	34.10	61.80	4.10	82.00	5.10	1.00	6.10	1.70			8.0	2237	
SURFACE MINE			WISE		74.10	4.80	2.50	W212493	370503	823519	B	13230	09/01/88
2.60	32.20	54.90	12.90					3.90	1.80			8.0	2372
SURFACE MINE			DICKENSON					W206889	370506	822536	B	14750	09/01/88
3.90	31.10	64.10	4.80	83.50	5.30	0.90	3.80	1.70			9.0	2597	
SURFACE MINE			DICKENSON					W195440	370508	821308	B	10330	09/01/88
2.50	19.20	49.10	31.70	59.20	3.60	0.80	3.70	1.00			7.5	2804	
SURFACE MINE			RUSSELL					D170134	370509	815419	B	14010	09/01/88
2.80	35.00	56.50	8.50	79.00	5.00	0.60	5.40	1.50			7.0	2462	
SURFACE MINE			WISE					W212494	370510	823519	B	12940	09/01/88
1.80	30.80	54.50	14.70	71.70	4.70	3.40	3.80	1.70			6.5	2219	
SURFACE MINE			RUSSELL					D170135	370519	815755	B	14310	09/01/88
1.60	34.00	59.30	6.70	80.70	5.10	0.90	5.20	1.40			8.0	2462	
SURFACE MINE			WISE					W231838	370519	823524	B	15020	09/01/88
4.10	32.70	63.70	3.60	84.10	5.20	0.70	4.70	1.70			8.5	2777	
SURFACE MINE			RUSSELL					D170137	370524	815449	B	13910	09/01/88
2.50	35.40	56.30	8.30	79.10	4.90	0.50	5.80	1.40			6.5	2408	
DEEP MINE, MCCALL COAL CO			RUSSELL					W187057	370526	815415	B	14120	09/01/88
1.50	36.90	55.80	7.30	80.10	5.10	0.60	5.40	1.50			7.5	2516	
SURFACE MINE			RUSSELL					D170133	370526	815417	B	14120	09/01/88
3.30	35.30	57.90	6.80	79.70	5.10	0.60	6.10	1.70			6.5	2462	
SURFACE MINE			WISE					W192608	370527	823711	B	14220	09/01/88
2.60	34.70	58.70	6.60	78.80	5.20	2.80	5.10	1.50			9.0	2039	
SURFACE MINE			WISE					W197299	370528	823844	B	14370	09/01/88
3.10	35.80	57.60	6.60	79.30	5.20	2.50	5.00	1.40			9.0	2264	
SURFACE MINE			WISE					D168912	370535	815439	B	14180	09/01/88
3.40	31.10	64.20	2.70	83.70	5.10	0.60	6.10	1.60			8.5	2732	
SURFACE MINE			DICKENSON					W231835	370543	823514	B	15080	09/01/88
3.00	32.60	65.00	2.40	84.40	5.30	1.00	5.30	1.60			9.0	2579	

## Coal Field Information Printout for: VA - Virginia

Location Moisture	Volatile Content	Fd Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
1.60	33.20	62.70	4.10	83.20	D168910	4.80	0.80	370559	815920	B	14810	09/01/88	0	
DEEP MINE, HESS CREEK MIN CO	2.40	28.30	49.80	RUSSELL	RUSSELL	W187055	4.10	2.30	370620	815748	B	11720	09/01/88	2516
SURFACE MINE	2.30	34.20	61.00	DICKENSON	RUSSELL	W192611	5.40	2.90	370620	823050	B	14610	09/01/88	2111
SURFACE MINE	1.60	32.90	60.20	6.90	RUSSELL	D170136	5.00	1.70	370632	815842	B	14310	09/01/88	2183
SURFACE MINE	2.70	35.00	57.40	WISE	RUSSELL	W229073	5.10	0.90	370648	823727	B	14100	09/01/88	2606
SURFACE MINE	2.50	32.70	60.20	7.10	DICKENSON	W163945	5.20	0.70	370702	815912	B	14460	09/01/88	2696
UNDERGROUND MINE	2.50	19.60	50.10	30.30	RUSSELL	W211172	3.70	1.50	3.60	1.10		8.5		2579
SURFACE MINE	4.00	33.00	62.10	4.90	DICKENSON	W212487	4.90	0.90	6.80	1.90		10670	09/01/88	
UNDERGROUND MINE	1.40	21.10	56.00	22.90	DICKENSON	W211168	6.40	0.80	5.70	1.20		14150	09/01/88	
SURFACE MINE	3.90	35.10	60.00	4.90	TAZEWELL	W203392	5.30	0.80	4.90	1.90		7.5	2507	
SURFACE MINE	3.00	28.90	62.00	9.10	TAZEWELL	D170145	4.80	0.90	4.60	1.30		11860	09/01/88	
SURFACE MINE	2.60	30.00	64.60	5.40	TAZEWELL	D170144	4.90	1.40	4.00	1.50		14080	09/01/88	
SURFACE MINE	2.70	24.50	55.80	19.70	TAZEWELL	W191031	4.20	0.70	370814	814447	B	14660	09/01/88	
UNDERGROUND MINE	1.70	28.90	66.40	4.70	EUCHANAN	W217592	4.90	0.70	4.40	1.40		9.0	2039	
SURFACE MINE	2.10	31.60	63.10	5.30	DICKENSON	W212486	81.70	4.90	0.70	5.70	1.70	14790	09/01/88	2453
SURFACE MINE	2.80	28.20	68.30	3.50	TAZEWELL	D170143	84.20	5.00	2.00	4.00	1.30	14380	09/01/88	
						370836			370838	814230	B	14880	09/01/88	
												9.0	2174	2804

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatile	Frd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND MINE	0.90	23.00	56.10	20.90	69.10	4.20	0.60	W215414	370842	821951	B	12070	09/01/88
SURFACE MINE	2.50	37.20	57.60	5.20	79.60	5.20	2.00	W212489	370842	823336	B	14360	09/01/88
								W219265	370845	823740	B	13470	09/01/88
									3.90	1.80		6.5	2111
									5.10	1.40		5.5	2642
									5.10	6.10		6.5	2138
									5.00	0.90		9.0	
SURFACE MINE	3.70	35.60	53.70	10.70	75.10	5.10	1.40	D170162	370858	814726	B	15010	09/01/88
									5.00	1.40		7.0	
									5.00	3.90		0.5	
									5.00	1.60		6.5	
SURFACE MINE	2.00	27.10	69.60	3.30	85.30	5.30	2.00	W209961	370904	823238	B	13930	09/01/88
								5.40	2.90	4.80		8.0	2120
DRILLCORE	8.90	37.40	54.00	8.60	76.70	5.40	2.90						
SURFACE MINE	2.90	35.30	59.90	4.80	81.80	5.10	0.60	W219405	370904	823625	B	14550	09/01/88
									5.10	6.10		7.0	
SURFACE MINE	9.40	31.60	62.10	6.30	76.00	4.50	0.80	W229084	370915	822807	B	13180	09/01/88
									5.10	10.80		0.5	2480
SURFACE MINE	2.90	31.30	62.00	6.70	81.30	4.90	0.60	D170139	370917	815412	B	14370	09/01/88
									5.00	5.00		6.5	2624
SURFACE MINE	1.80	32.20	53.60	14.20	73.10	4.60	0.70	W212490	370918	823259	B	13010	09/01/88
									5.00	5.80		6.5	
SURFACE MINE	4.50	34.10	58.70	7.20	79.90	5.10	1.50	W213083	370919	322808	B	14270	09/01/88
									4.70	4.70		7.5	2516
SURFACE MINE	1.90	27.30	68.40	4.30	84.10	4.90	1.20	D170163	370924	814704	B	14840	09/01/88
									5.00	4.00		9.0	2138
SURFACE MINE	3.60	29.80	66.30	3.90	84.90	5.00	0.50	D170140	370937	815131	B	14990	09/01/88
									4.40	1.30		8.5	2093
UNDERGROUND MINE	2.60	26.60	66.00	7.40	82.20	4.80	0.90	W215875	370947	820738	B	14440	09/01/88
									3.20	1.50		7.5	2642
UNDERGROUND MINE	3.10	26.00	69.20	4.80	84.20	4.80	0.80	W215876	370951	820027	B	14880	09/01/88
									3.80	1.60		8.0	2318
UNDERGROUND MINE	1.20	18.50	69.10	12.40	79.70	3.90	0.70	W214764	370955	820101	B	13690	09/01/88
									5.60	2.20		7.5	2498
SURFACE	4.00	36.00	60.30	3.70	83.10	5.60	0.90	W204617	371003	822840	B	14860	09/01/88
									4.90	1.80		7.0	2363

## Coal Field Information Printout for: VA - Virginia

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg			
Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE MINE	DICKENSON	W206886	371003	822903	B	14220	09/01/88			
3.70	35.80	57.60	6.60	79.40	5.70	1.70	4.80	1.80	8.0	2543
UNDERGROUND MINE	BUCHANAN	W215877	371004	820026	B	14980	09/01/88			
3.40	26.20	69.30	4.50	84.90	5.00	0.80	3.10	1.70	8.0	2282
SURFACE MINE	DICKENSON	W238481	371004	823111	B	14580	09/01/88			
2.10	38.80	56.20	5.00	80.60	5.40	1.30	5.80	1.90	7.0	2291
2.30	27.30	65.30	7.40	81.40	4.80	0.70	4.40	1.30	8.5	2912
UNDERGROUND MINE	BUCHANAN	W215447	371012	814754	B	14330	09/01/88			
1.30	25.30	60.70	14.00	75.50	4.50	3.00	1.60	1.40	6.0	2363
SURFACE MINE	BUCHANAN	W194301	371023	820556	B	12910	09/01/88			
1.70	25.50	57.20	17.30	72.70	4.50	1.00	3.20	1.30	8.0	2804
1.90	28.50	68.40	3.10	85.70	5.10	0.80	3.90	1.40	9.0	2138
2.60	31.00	65.70	3.30	85.30	5.10	0.90	3.90	1.50	9.0	2300
SURFACE MINE	DICKENSON	W238478	371032	822656	B	15080	09/01/88			
3.80	35.90	62.20	1.90	85.50	5.40	0.70	4.90	1.60	7.5	2390
SURFACE MINE	BUCHANAN	W238479	371035	822639	B	14850	09/01/88			
2.00	35.80	60.50	3.70	82.90	5.30	1.00	5.30	1.80	7.0	2606
SURFACE MINE	DICKENSON	W204618	371036	822537	B	14150	09/01/88			
3.90	32.90	59.80	7.30	79.40	5.10	0.80	5.80	1.60	9.0	2804
2.00	27.10	68.70	4.20	85.50	4.90	0.70	3.40	1.30	8.0	2084
SURFACE MINE	DICKENSON	W206887	371040	822548	B	14370	09/01/88			
4.00	34.60	58.80	6.60	80.00	5.40	1.40	4.70	1.90	9.0	2624
SURFACE MINE	DICKENSON	W206888	371042	822549	B	14830	09/01/88			
3.40	34.90	61.10	4.00	82.30	5.60	1.70	4.50	1.90	9.0	2309
UNDERGROUND MINE	BUCHANAN	W215448	371043	820100	B	15140	09/01/88			
1.70	25.20	71.70	3.10	86.40	4.70	1.00	3.10	1.70	8.0	2399
2.20	26.70	70.70	2.60	86.90	5.00	0.50	3.70	1.30	9.0	2039

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Free Swell	Last Chg	Hemi Temp
UNDERGROUND MINE	1.10	19.00	70.90	10.10	80.60	4.10	0.80	3.20	1.20	B	14050	6.5	09/01/88	2480
DRILLCORE	2.40	39.90	54.00	6.10	77.90	5.30	2.80	371115	823241	B	14070	5.0	09/01/88	2039
UNDERGROUND MINE	2.90	24.80	64.40	10.80	78.60	4.60	1.40	371116	820634	B	13830	8.0	09/01/88	266
	3.40	27.40	68.90	3.70	86.40	5.00	0.70	2.90	1.40	B	15140	8.0	09/01/88	2156
UNDERGROUND MINE	1.30	24.90	54.40	20.70	69.50	4.00	0.60	4.00	1.20	B	12200	5.0	09/01/88	2804
	3.40	26.00	67.50	6.50	83.70	4.70	0.90	2.90	1.30	B	14700	9.0	09/01/88	2462
	3.20	28.10	62.60	9.30	78.90	4.60	2.70	3.40	1.10	B	13980	9.0	09/01/88	2111
SURFACE MINE	2.70	25.70	70.90	3.40	85.90	4.90	0.60	3.80	1.40	B	15160	9.0	09/01/88	2354
	8.10	28.10	64.70	7.20	78.80	4.20	1.00	7.50	1.30	B	13600	1.5	09/01/88	2264
	2.90	27.60	66.70	5.70	83.70	4.90	0.90	3.40	1.40	B	14720	9.0	09/01/88	2452
	2.30	24.00	68.60	7.40	82.60	4.50	0.70	3.40	1.40	B	14500	9.0	09/01/88	2462
	3.80	24.80	71.20	4.00	85.60	4.90	2.10	2.20	1.20	B	15000	9.0	09/01/88	2183
SURFACE MINE	4.50	29.80	61.90	8.30	80.70	4.90	1.00	3.50	1.60	B	14430	8.0	09/01/88	2804
	5.90	29.40	54.80	15.80	72.30	4.50	1.60	4.40	1.40	B	13000	8.5	09/01/88	2453
SURFACE MINE	2.70	30.30	57.40	12.30	75.00	4.70	2.30	4.20	1.50	B	13390	9.0	09/01/88	2336
SURFACE MINE	2.70	31.20	57.50	11.30	75.40	4.80	2.90	4.20	1.40	B	13490	9.0	09/01/88	2363

## Coal Field Information Printout for: VA - Virginia

Location Moisture	Volatile Ash	Crbn	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Free Swell	Last Chg Hemi Temp
6.40	20.20	72.90	6.90	TAZEWELL	82.60	4.30	0.60	W191030	371155 4.00	813913 1.60	B	14100	1.0	09/01/88 2138
SURFACE MINE		BUCHANAN			W193950				371206 4.10	815739 1.30	B	13550	9.0	09/01/88 2489
7.00	25.10	62.70	12.20	76.70	4.40	1.30								
SURFACE MINE		BUCHANAN			W193948				371208 3.10	815737 1.30	B	14570	9.0	09/01/88 2417
3.40	25.90	67.10	7.00	82.20	4.70	1.70								
UNDERGROUND MINE		BUCHANAN			W214763				371212 2.30	815948 1.10	B	14740	2.5	09/01/88 2309
1.60	18.30	76.10	5.60	86.10	4.30	0.60								
1.40	23.70	71.00	5.30	83.10	4.90	1.00		W191033	371215 4.40	814102 1.30	B	14780	9.0	09/01/88 2237
1.80	24.40	72.10	3.50	85.30	4.80	0.80		W191032	371219 4.20	814112 1.40	B	15110	9.0	09/01/88 2264
UNDERGROUND MINE		BUCHANAN			W215412				371258 3.00	815939 1.60	B	15340	9.0	09/01/88 2516
1.20	23.70	73.50	2.80	87.10	4.80	0.70								
DRILLCORE		DICKENSON			W219405				371302 6.70	822858 1.60	B	14440	5.5	09/01/88 2804
2.80	37.40	58.20	4.40	81.30	5.20	0.80								
SURFACE MINE		BUCHANAN			W193947				371305 3.60	815430 1.50	B	14600	9.0	09/01/88 2804
4.60	24.20	69.30	6.50	82.90	4.80	0.70								
UNDERGROUND MINE		BUCHANAN			W193935				371315 2.30	820536 1.00	B	12990	4.5	09/01/88 2804
1.20	15.50	68.30	16.20	75.70	3.90	0.90								
UNDERGROUND MINE		BUCHANAN			W238474				371319 3.90	820839 1.50	B	13860	8.0	09/01/88 2786
1.30	24.40	70.00	5.60	83.90	4.80	0.70		W217397	371316 3.40	820632 1.60	B	14780	9.0	09/01/88 2327
SURFACE MINE		BUCHANAN												
2.40	29.10	59.90	11.00	77.70	4.90	1.00								
SURFACE MINE		BUCHANAN			W238475				371320 4.50	820835 1.30	B	14340	2.5	09/01/88 2084
8.20	29.90	66.40	3.70	81.90	4.90	1.00								
UNDERGROUND MINE		BUCHANAN			W217399				371323 2.10	820827 1.10	B	14620	8.5	09/01/88 2030
1.30	31.20	63.00	5.80	81.80	5.10	1.50								
1.90	23.10	72.70	4.20	86.20	4.80	0.50		DI70149	371325 3.00	815238 1.30	B	15080	9.0	09/01/88 2363
0.90	15.70	76.70	7.60	84.40	4.20	0.60			371346 2.10	815946 1.10	B	14550	3.5	09/01/88 2426
UNDERGROUND MINE		BUCHANAN			W193933									

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
SURFACE MINE					BUCHANAN			W194298	371349	820807	B	14270	09/01/88
	2.80	30.60	61.00	8.40	79.90	5.10	1.20		3.90	1.50		9.0	2642
SURFACE MINE					BUCHANAN			W194300	371349	820809	B	12410	09/01/88
	2.50	25.90	54.30	19.80	69.90	4.30	0.70		4.00	1.30		6.5	2804
SURFACE MINE					DICKENSON			W236240	371355	821933	B	13400	09/01/88
	1.60	32.20	55.80	12.00	74.20	4.80	3.70		3.90	1.40		9.0	2156
UNDERGROUND MINE					BUCHANAN			W193934	371357	820428	B	13580	09/01/88
	0.80	17.70	69.80	12.50	79.10	3.90	0.90		2.60	1.00		5.5	2309
UNDERGROUND MINE					BUCHANAN			W214766	371358	820614	B	14900	09/01/88
	1.60	20.60	75.10	4.30	86.50	4.50	0.60		2.90	1.20		5.0	2210
SURFACE MINE					BUCHANAN			W194302	371358	820723	B	12060	09/01/88
	5.10	27.00	51.90	21.10	67.70	4.30	1.30		4.30	1.30		9.0	2804
SURFACE MINE					BUCHANAN			W194303	371359	820721	B	10110	09/01/88
	4.10	22.40	44.50	33.10	56.90	3.50	1.40		4.00	1.00		8.5	2615
SURFACE MINE					BUCHANAN			W194292	371400	820720	B	13010	09/01/88
	2.30	26.40	57.10	16.50	73.10	4.50	1.00		3.50	1.40		8.5	2804
SURFACE MINE					DICKINSON			W236241	371404	821938	B	15000	09/01/88
	1.80	33.70	63.40	2.90	83.60	5.20	0.80		5.90	1.60		8.0	2597
SURFACE MINE					BUCHANAN			D170158	371407	815028	B	13870	09/01/88
	2.50	19.40	69.60	11.00	79.90	4.10	0.80		2.80	1.30		8.5	2912
SURFACE MINE					BUCHANAN			D170157	371416	814930	B	14230	09/01/88
	3.10	20.10	71.30	8.60	81.00	4.40	0.60		3.20	1.40		9.0	2912
SURFACE MINE					TAZEWELL			D170151	371420	812859	B	14230	09/01/88
	1.70	25.50	66.10	8.40	81.20	4.70	0.50		3.90	1.30		8.5	2912
SURFACE MINE					TAZEWELL			D170150	371422	812909	B	15140	09/01/88
	0.90	28.10	68.00	3.90	86.20	4.90	0.50		3.10	1.40		7.0	2471
UNDERGROUND MINE					DICKINSON			W211675	371427	822038	B	13590	09/01/88
	2.80	32.00	57.60	10.40	77.10	4.90	0.60		5.50	1.50		7.5	2804
UNDERGROUND MINE					DICKINSON			W211677	371429	822027	B	12930	09/01/88
	2.30	29.60	54.00	16.40	71.60	4.70	0.80		4.90	1.60		7.5	2651
UNDERGROUND MINE					BUCHANAN			W211771	371433	820904	B	13840	09/01/88
	2.80	28.10	61.90	10.00	77.80	4.70	2.10		3.90	1.50		6.5	2462

## Coal Field Information Printout for: VA - Virginia

Location	Volatile	Frd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture				Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
LESLIE COAL CO MINE	25.90	64.90	9.20	TAZEWELL	W187042	371434	812940	B	14210	09/01/88
3.00						4.60	0.60	3.10	1.40	8.0 2912
SURFACE MINE	26.10	60.10	13.80	BUCHANAN	W238476	371434	820954	B	11520	09/01/88
13.20						4.00	0.60	11.10	1.40	0.0 2723
UNDERGROUND MINE	32.10	65.60	2.30	BUCHANAN	W214769	371436	820926	B	15160	09/01/88
3.10						4.80	1.40	5.10	1.80	9.0 2102
UNDERGROUND MINE	18.30	78.00	3.70	BUCHANAN	W214767	371437	820136	B	14990	09/01/88
1.40						4.20	0.70	3.20	1.20	3.5 2336
SURFACE MINE	31.40	65.60	3.00	BUCHANAN	W238472	371439	820949	B	15090	09/01/88
2.20						5.30	1.20	4.30	1.60	8.0 2201
SURFACE MINE	19.80	71.40	8.80	BUCHANAN	D170132	371440	815050	B	14210	09/01/88
2.00						4.40	0.70	2.80	1.40	9.0 2732
CONSOL LAUREL NO 2 MINE	26.80	63.60	9.60	TAZEWELL	W187040	371445	812802	B	14150	09/01/88
2.10						4.70	0.80	3.40	1.40	7.0 2732
UNDERGROUND MINE	17.90	77.70	4.40	BUCHANAN	W214762	371448	815713	B	14960	09/01/88
1.50						4.20	0.70	3.20	1.20	3.0 2381
SURFACE MINE	21.20	71.10	10.20	BUCHANAN	D170156	371449	815022	B	13750	09/01/88
4.30						4.20	0.80	3.70	1.40	2.5 2912
UNDERGROUND MINE	27.50	66.70	5.80	BUCHANAN	W215413	371453	820847	B	14410	09/01/88
1.60						4.70	1.20	4.60	1.50	6.0 2714
UNDERGROUND MINE	21.20	76.30	2.50	BUCHANAN	D170159	371500	814802	B	15310	09/01/88
2.40						4.50	0.60	2.90	1.40	9.0 2111
UNDERGROUND MINE	21.30	68.90	9.80	TAZEWELL	W193989	371501	812909	B	14180	09/01/88
1.90						4.50	0.60	3.00	1.20	9.0 2507
UNDERGROUND MINE	22.10	69.30	8.60	TAZEWELL	W193990	371502	812954	B	14340	09/01/88
2.00						4.60	0.70	2.80	1.20	9.0 2471
SURFACE MINE	31.80	61.30	6.90	BUCHANAN	W193668	371503	821054	B	14390	09/01/88
2.50						5.20	1.50	4.30	1.40	9.0 2444
SURFACE MINE	25.30	71.00	3.70	TAZEWELL	D170152	371515	812959	B	15030	09/01/88
1.90						4.90	1.10	3.20	1.20	9.0 2237

## Coal Field Information Printout for: VA - Virginia

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg				
Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
SURFACE 3.60	24.20	46.50	29.30	60.80	3.80	0	4.40	371519	821011	B	10690 09/01/88
UNDERGROUND MINE 2.60	30.00	61.30	8.70	79.20	5.00	1.20	4.30	371529	820811	B	4.5 2804
SURFACE MINE 2.50	28.30	68.70	3.00	84.70	5.00	0.90	5.00	371536	820713	B	14100 09/01/88
SURFACE MINE 2.40	26.50	52.80	20.70	68.50	4.30	0.60	4.70	371548	820713	B	12210 09/01/88
AUGER MINE, LAUREL FORK 2.80	27.60	68.00	4.40	84.50	4.90	0.80	4.20	371600	812645	B	8.0 2804
UNDERGROUND MINE 1.60	27.90	67.10	5.00	82.90	4.90	0.60	4.90	371615	821112	B	14850 09/01/88
SURFACE MINE 2.00	20.70	72.70	6.60	83.60	4.40	0.60	3.40	371617	815332	B	9.0 2408
SURFACE MINE 3.60	29.10	61.90	9.00	78.60	5.00	1.50	4.30	371638	821025	B	14040 09/01/88
SURFACE MINE 2.00	36.30	56.60	7.10	79.30	5.30	2.70	4.00	371717	821520	B	8.5 2588
SURFACE MINE 1.90	35.90	51.60	12.50	73.40	4.90	4.00	3.80	371746	821502	B	14400 09/01/88
UNDERGROUND MINE 1.40	29.80	59.10	11.10	77.20	4.80	1.60	3.80	371748	820808	B	6.0 2021
UNDERGROUND MINE 2.60	29.90	62.30	7.80	80.10	5.00	1.20	4.20	371805	820002	B	8.5 2138
DRILLCORE 3.00	22.30	74.60	3.10	87.70	4.70	0.60	2.50	371813	814504	B	13670 09/01/88
DRILLCORE 4.90	10.20	51.00	38.80	52.70	2.60	0.30	5.00	371821	801930	B	6.0 2624
UNDERGROUND MINE 1.60	28.50	65.30	6.20	81.50	5.10	1.10	4.40	371822	821327	B	8.5 2237
UNDERGROUND MINE 1.70	32.30	59.90	7.80	79.60	5.00	1.00	5.00	371822	821327	B	9.0 2480
UNDERGROUND MINE 1.60	28.50	65.30	6.20	81.50	5.10	1.10	4.40	371821	820108	B	14530 09/01/88
UNDERGROUND MINE 1.70	32.30	59.90	7.80	79.60	5.00	1.00	5.00	371822	821327	B	9.0 2588
UNDERGROUND MINE 1.70	32.30	59.90	7.80	79.60	5.00	1.00	5.00	371822	821327	B	14180 09/01/88
UNDERGROUND MINE 1.70	32.30	59.90	7.80	79.60	5.00	1.00	5.00	371822	821327	B	9.0 2660

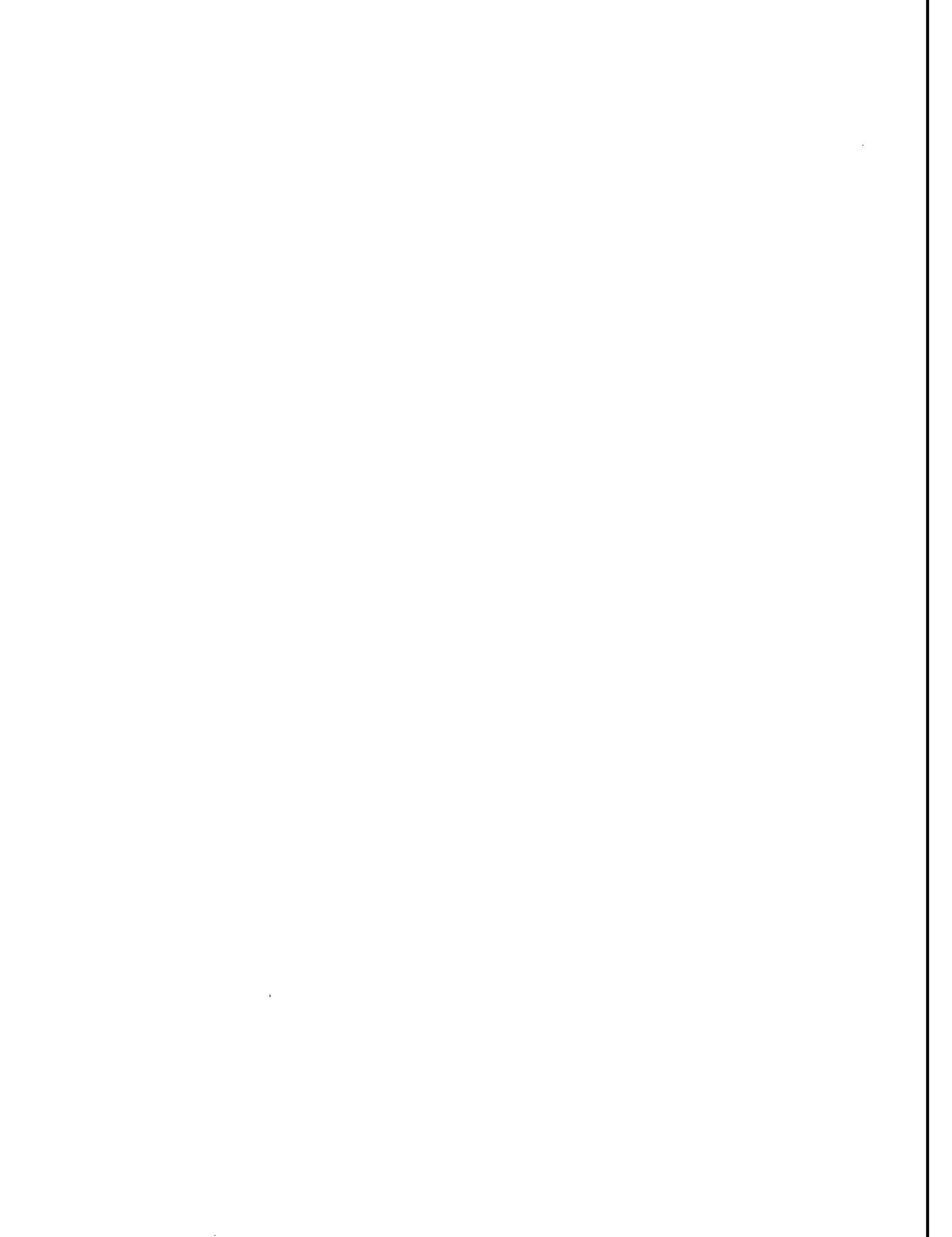
## Coal Field Information Printout for: VA - Virginia

Location Moisture	Volatile Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
Fxd Crbn	Ash								Hardgrove	Free Swell	Hemi Temp
UNDERGROUND MINE 1.50	34.20	HUCHANAN	81.10	5.10	1.30	W217685	371823	821329	B	14440	09/01/88 2498
UNDERGROUND MINE 2.70	31.80	HUCHANAN	80.10	4.90	1.20	W218771	371824	820546	B	14500	09/01/88 2606
SURFACE MINE 2.90	34.00	BUCHANAN	85.20	5.10	1.10	W218770	371833	821218	B	15550	09/01/88 2228
UNDERGROUND MINE 2.00	32.90	BUCHANAN	80.30	5.10	0.60	W217689	371848	821309	B	14350	09/01/88 2804
SURFACE MINE 1.60	31.80	BUCHANAN	84.50	5.20	0.70	W223355	371913	820349	B	15040	09/01/88 2660
UNDERGROUND MINE 2.40	29.70	BUCHANAN	69.60	4.50	0.80	W218774	371926	820617	B	12520	09/01/88 2804
SURFACE MINE 3.50	29.70	BUCHANAN	72.70	4.90	0.70	W218973	372000	820549	B	12980	09/01/88 2804
UNDERGROUND MINE 2.50	33.10	BUCHANAN	81.60	5.10	1.70	W218775	372006	820608	B	14550	09/01/88 2192
UNDERGROUND MINE 1.50	30.00	BUCHANAN	79.00	4.90	0.70	W225106	372010	820210	B	14040	09/01/88 2651
UNDERGROUND MINE 2.20	31.50	BUCHANAN	81.30	4.60	1.20	W218772	372010	820645	B	14590	09/01/88 2552
UNDERGROUND MINE 2.40	31.80	BUCHANAN	83.90	5.10	0.80	W218773	372010	820654	B	14900	09/01/88 2588
UNDERGROUND MINE 2.70	29.50	BUCHANAN	81.20	4.90	0.70	W218769	372055	820404	B	14400	09/01/88 2804
UNDERGROUND MINE 3.20	29.00	BUCHANAN	81.00	4.80	0.60	W218765	372103	821402	B	14310	09/01/88 2624
UNDERGROUND MINE 1.40	29.60	BUCHANAN	80.70	4.90	0.70	W223359	372117	820849	B	14330	09/01/88 2804
UNDERGROUND MINE 3.20	28.90	BUCHANAN	81.40	4.90	0.70	W223360	372118	820846	B	14440	09/01/88 2804
UNDERGROUND MINE 2.70	32.90	BUCHANAN	83.30	4.80	1.10	W218768	372131	821033	B	14680	09/01/88 2453

## Coal Field Information Printout for: VA - Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon <sup>a</sup>	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
SURFACE MINE	2.20	30.90	62.50	6.60	BUCHANAN	W218978	Hydrogen	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp
UNDERGROUND MINE	1.90	30.30	64.20	5.50	BUCHANAN	W223357	372151	820619	B	14620	09/01/88	2687
SURFACE MINE	1.90	33.40	61.50	5.10	BUCHANAN	W223361	372154	820230	B	14630	09/01/88	2804
UNDERGROUND MINE	1.10	33.40	58.80	7.80	BUCHANAN	W223107	372159	820534	B	14220	09/01/88	2804
UNDERGROUND MINE	2.40	35.10	58.90	6.00	BUCHANAN	W223358	5.10	4.10	4.90	5.50	1.70	7.5
SURFACE MINE	1.40	29.70	52.70	17.60	BUCHANAN	W223352	372238	821142	B	14170	09/01/88	2030
SURFACE MINE	3.30	34.30	59.10	6.60	BUCHANAN	W205890	5.50	0.80	5.20	1.40	1.60	8.0
UNDERGROUND MINE	2.10	33.10	63.50	3.40	BUCHANAN	W223353	372250	820520	B	12550	09/01/88	2804
DRILLCORE	4.30	10.70	66.30	23.00	ROTETOUR <sup>c</sup>	W219206	372933	815758	B	14410	09/01/88	2804
SURFACE MINE	16.50	31.30	64.20	4.50	WISE	W231828	375854	823309	B	12710	09/01/88	2552
SURFACE MINE	15.70	32.40	63.40	4.20	WISE	W231829	375855	823309	B	12740	09/01/88	2246
										0.0	0.0	2291.

**Coal Field Information Printout for  
WA - Washington**



## Coal Field Information Printout for: WA - Washington

Location Moisture	Volatile Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
										Hardgrove	Free Swell	Hemi Temp
15.80	37.80	47.00	15.20	59.00	3.10	0.40	D183127	460310	1172035	L	9280	09/01/88
2.40	23.40	51.30	25.30	62.30	4.00	0.60	D184668	455530	1240210	B	10930	09/01/88
CENTRALIA STRIP MINE		THURSTON		D178913								2804
19.30	40.80	41.20	18.00	59.60	4.40	0.50		464631	1224600	SB	10310	09/01/88
11.80	20.90	49.70	29.40	54.20	2.80	0.70	D183128	470415	1220040	B	8890	09/01/88
ROGERS NO 3 MINE		KING		D176203								2399
6.20	21.70	54.40	23.90	61.90	3.30	0.40		472148	1215850	B	10290	09/01/88
		WHATCOM		D176202								2912
8.70	29.20	51.20	19.60	62.90	3.30	0.40		4B5030	1215645	A	10300	09/01/88
4.00	15.10	20.70	34.20	53.50	2.20	0.40	D177025	485114	1215804	SA	8300	09/01/88
3.60	28.70	35.70	35.60	51.80	3.70	0.40	D183123	4B5254	1220742	SA	9210	09/01/88
		WHATCOM										2812
												2300

**Coal Field Information Printout for  
WV - West Virginia**

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatiles	Fed Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
2.20	21.80	73.90	4.30	86.00	4.70	0.50	D170155	371530	812943	B	14990	09/01/88	
2.60	21.60	74.00	4.40	86.20	4.60	0.60	D170154	371611	813019	B	14900	09/01/88	
US STEEL NO 14 MINE, RD FORK	25.20	69.80	5.00	85.50	4.80	0.70	W187043	371616	812758	B	14990	09/01/88	
CONSOL JENKIN JONES MINE	2.40	23.50	69.90	6.60	83.80	4.50	0.60	W187041	371645	812530	B	14660	09/01/88
STR BNCH, BALLARD HARMON BR	6.20	24.00	63.80	12.20	75.40	4.10	0.60	W191522	371700	812650	B	12930	09/01/88
UNDERGROUND	2.40	16.70	80.30	3.00	88.40	4.40	0.70	W192732	371730	813450	B	15320	09/01/88
UNDERGROUND	2.50	16.60	66.30	17.10	74.30	3.90	0.70	W193998	371948	813831	B	12890	09/01/88
UNDERGROUND	1.40	15.40	75.10	9.50	81.50	4.10	1.40	W194001	372020	813957	B	14170	09/01/88
UNDERGROUND	1.20	15.40	79.90	4.70	87.30	4.40	0.60	W193983	372049	813747	B	15110	09/01/88
UNDERGROUND	1.70	16.30	73.50	10.20	80.60	4.10	1.50	W194003	372114	814025	B	14070	09/01/88
UNDERGROUND	2.10	17.00	77.30	5.70	85.80	4.40	0.70	W193984	372116	813136	B	14930	09/01/88
UNDERGROUND	2.50	17.00	76.50	6.50	84.30	4.30	0.90	W194002	372116	813957	B	14730	09/01/88
UNDERGROUND	3.20	16.10	78.90	5.00	86.50	4.30	0.70	W193987	372121	813058	B	14940	09/01/88
UNDERGROUND	1.00	15.30	78.00	6.70	85.20	4.10	0.50	W194011	372146	814123	B	14660	09/01/88
UNDERGROUND	1.50	15.20	78.70	6.10	85.30	4.20	0.80	W193958	372200	813614	B	14760	09/01/88
UNDERGROUND	1.50	24.80	71.30	3.90	85.30	4.70	0.60	W192712	372202	815041	B	15060	09/01/88

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND	3.00	15.50	77.20	7.30	MCDOWELL	84.50	4.20	0.80	W193964	372220	813218	B	14600	09/01/88
										2.10	1.10		8.0	2723
UNDERGROUND	1.50	25.50	68.30	6.20	MCDOWELL	82.10	4.90	1.30	W192714	372225	815007	B	14590	09/01/88
										3.90	1.60		9.0	2219
UNDERGROUND	3.30	18.00	72.80	9.20	MCDOWELL	82.20	4.50	0.60	W194010	372243	812730	B	14350	09/01/88
										2.30	1.20		9.0	2804
UNDERGROUND	2.30	17.30	79.60	3.10	MCDOWELL	87.70	4.40	0.60	W194004	372251	813717	B	15330	09/01/88
										2.80	1.40		8.5	2552
UNDERGROUND	1.40	27.30	68.10	4.60	MCDOWELL	83.20	5.20	0.80	W192713	372305	815402	B	14830	09/01/88
										4.60	1.60		9.0	2606
UNDERGROUND	1.00	14.40	78.50	7.10	MCDOWELL	85.10	4.10	0.50	W193982	372404	814058	B	14610	09/01/88
										2.10	1.10		3.5	2642
STRIP	3.10	20.50	76.00	3.50	MCDOWELL	87.00	4.60	0.60	W193981	372406	812125	B	15230	09/01/88
										2.90	1.40		9.0	2804
UNDERGROUND	2.40	16.90	73.30	9.80	MCDOWELL	81.50	4.10	0.60	W193970	372420	815555	B	14120	09/01/88
										2.60	1.40		9.0	2804
UNDERGROUND	3.40	17.50	71.20	11.30	MCDOWELL	79.70	4.10	1.10	W193969	372437	814023	B	13880	09/01/88
										2.50	1.30		9.0	2804
STRIP	0.60	18.10	73.90	8.00	MCDOWELL	82.00	4.50	0.80	W191874	372445	813328	B	14180	09/01/88
										4.00	0.70		9.0	2678
UNDERGROUND	2.70	14.80	76.90	8.30	MCDOWELL	83.20	4.40	0.80	W193961	372446	813037	B	14430	09/01/88
										2.20	1.10		8.0	2804
UNDERGROUND	1.50	19.20	71.10	9.70	MCDOWELL	80.50	4.40	1.20	W193980	372450	812152	B	14100	09/01/88
										2.90	1.30		9.0	2507
UNDERGROUND	2.30	19.40	72.30	8.30	MCDOWELL	82.70	4.40	0.70	W193988	372458	813442	B	14400	09/01/88
										2.50	1.40		9.0	2804
UNDERGROUND	2.30	17.50	64.20	18.30	MCDOWELL	73.50	3.90	1.10	W194015	372502	812017	B	12880	09/01/88
										2.00	1.20		8.5	2651
UNDERGROUND	2.60	20.30	74.00	5.70	MCDOWELL	84.70	4.50	0.70	W193968	372520	814122	B	14820	09/01/88
										2.90	1.50		9.0	2804
UNDERGROUND	2.10	18.80	73.60	7.60	MCDOWELL	83.30	4.60	1.00	W194986	372600	812928	B	14540	09/01/88
										2.30	1.20		9.0	2750

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Fxd Crbn	Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
POCAHONTAS NO 2 7.00	19.40	73.20	7.40	80.60	3.90	0.50	W194386	372612	811358	B	13630	09/01/88 2651
UNDERGROUND 2.30	18.50	77.20	4.30	86.60	4.50	1.10	W193728	372618	811626	B	15130	09/01/88 2345
UNDERGROUND 2.00	19.30	75.70	5.00	85.50	4.50	1.30	W194987	372620	812742	B	14960	09/01/88 2345
UNDERGROUND 2.50	16.00	50.30	33.70	58.10	3.40	0.80	W194012	372524	812004	B	10200	09/01/88 2804
UNDERGROUND 2.30	17.50	75.90	6.60	85.40	4.30	0.80	W194019	372535	812225	B	14950	09/01/88 2714
UNDERGROUND 3.60	18.70	75.00	6.30	84.20	4.50	1.10	W193994	372700	814120	B	14750	09/01/88 2651
UNDERGROUND 1.90	19.40	68.70	11.90	78.00	4.40	1.60	W194020	372714	814209	B	13680	09/01/88 2669
UNDERGROUND 3.20	32.60	64.70	2.70	83.40	5.10	1.00	W191871	372227	812222	B	13930	09/01/88 2606
UNDERGROUND 1.70	18.30	78.00	3.70	87.30	4.60	0.60	W194007	372749	813731	B	15240	09/01/88 2615
UNDERGROUND 2.30	15.80	76.70	7.50	84.50	4.00	0.60	W193976	372750	812808	B	14850	09/01/88 2237
UNDERGROUND 2.40	16.50	75.00	8.50	83.00	4.10	0.50	W193973	372835	812308	B	14510	09/01/88 2462
POCAHONTAS NO 3 1.40	29.00	42.30	28.70	58.80	4.10	0.90	W194382	372845	811045	B	10410	09/01/88 2804
UNDERGROUND 3.20	31.20	53.60	15.20	68.40	4.60	4.40	W191869	372854	815751	B	12630	09/01/88 2219
UNDERGROUND 0.50	12.90	48.70	38.40	54.20	2.80	0.40	W193726	372921	811834	B	9260	09/01/88 2804
UNDERGROUND 3.10	17.20	75.80	7.00	83.50	4.20	1.90	W193974	372926	812421	B	14530	09/01/88 2345

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen	Hardgrove	Frue Swell	Hemi Temp		
UNDERGROUND	2.70	29.50	65.70	4.80	MCDOWELL	W191111	5.00	2.00	372933	815059	B	14780	09/01/88	2192
UNDERGROUND	3.60	30.20	60.40	9.40	WYOMING	W191108	5.20	1.30	372933	815210	B	13860	09/01/88	2732
UNDERGROUND	1.50	17.10	72.10	10.80	MERCER	W192728	4.10	0.50	372934	811456	B	14010	09/01/88	2912
UNDERGROUND	2.40	17.00	77.80	5.20	WYOMING	W192720	4.50	0.50	372942	812200	B	14940	09/01/88	2408
UNDERGROUND	2.50	16.10	77.00	6.90	WYOMING	W194016	4.10	0.50	372951	812034	B	14710	09/01/88	2804
STRIP MINE	1.70	19.20	76.10	4.70	WYOMING	W192722	4.60	0.50	373003	812125	B	14980	09/01/88	2588
UNDERGROUND	3.10	19.20	78.30	2.50	WYOMING	W193992	4.80	0.80	373017	813443	B	15370	09/01/88	2516
STRIP MINE	2.60	31.30	64.80	3.90	MCDOWELL	W191110	5.20	1.00	373031	815406	B	14490	09/01/88	2579
STRIP MINE	3.80	20.00	75.90	4.10	WYOMING	D165681	4.60	0.70	373046	811520	B	14820	09/01/88	2912
UNDERGROUND	1.20	23.10	57.60	19.30	WYOMING	W19_129	4.30	2.10	373047	814710	B	12150	09/01/88	2633
SEWELL STRIP	0.70	19.40	70.90	9.70	WYOMING	W194370	4.50	0.70	373100	811320	B	14150	09/01/88	2804
STRIP MINE	2.00	31.50	65.70	2.80	MCDOWELL	W191130	5.50	0.80	373115	815221	B	14830	09/01/88	2363
UNDERGROUND	1.50	17.60	75.50	6.90	WYOMING	W192733	4.30	0.50	373125	812704	B	14550	09/01/88	2408
UNDERGROUND	1.20	25.70	67.80	6.50	WYOMING	W191131	5.00	1.70	373149	814724	B	14430	09/01/88	2390
UNDERGROUND	2.50	32.00	62.20	5.80	WYOMING	W191107	5.20	1.10	373157	814812	B	14470	09/01/88	2444
UNDERGROUND	1.80	30.40	53.20	16.40	MINGO	W189349	4.70	3.10	373203	815417	B	12620	09/01/88	2237

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Frc Swell	Hemi Temp	
UNDERGROUND	2.80	21.90	69.80	8.30	WYOMING	W193967	0.90	2.80	373248	813756	B	14370	09/01/88	9.0 2732
UNDERGROUND	3.00	28.40	56.40	15.20	WYOMING	W191112	4.50	4.40	373237	814741	B	13140	09/01/88	9.0 2138
UNDERGROUND	2.50	19.30	73.10	7.60	WYOMING	W192718	4.50	1.50	373302	812533	B	14380	09/01/88	9.0 2408
UNDERGROUND	1.60	17.10	72.10	10.80	WYOMING	W192719	4.30	1.10	373307	812650	B	13870	09/01/88	7.0 2561
UNDERGROUND	2.70	19.40	73.80	6.80	WYOMING	W194021	4.60	0.60	373315	813409	B	14600	09/01/88	9.0 2912
STRIP	2.70	15.20	73.70	11.10	WYOMING	W192725	4.10	0.50	373324	812206	B	13870	09/01/88	4.0 2714
UNDERGROUND	1.20	16.60	67.30	16.10	WYOMING	W192717	4.10	0.70	373324	812528	B	12930	09/01/88	6.5 2912
STRIP	2.50	30.90	57.70	11.40	MINGO	W1B9348	4.70	1.10	373327	81535	B	13490	09/01/88	7.5 2750
STRIP	9.50	21.30	75.40	3.30	WYOMING	W1B92716	4.80	1.30	373356	812555	B	15130	09/01/88	9.0 2489
UNDERGROUND	1.50	42.70	41.30	16.00	MINGO	W1B9253	4.70	1.50	373404	620615	B	12540	09/01/88	7.0 2777
STRIP	5.70	34.10	58.50	7.40	MINGO	W1B9255	4.50	1.00	373406	820619	B	13380	09/01/88	1.5 2300
UNDERGROUND	2.90	33.10	60.00	6.90	MINGO	W1B9344	5.00	0.80	373409	815150	B	14250	09/01/88	7.5 2750
UNDERGROUND	2.80	32.10	62.70	5.20	MINGO	W1B9346	5.00	0.70	373432	815205	B	14550	09/01/88	8.5 2912
STRIP	3.60	33.70	59.80	6.50	MINGO	W1B94985	5.10	0.70	373439	820017	B	14390	09/01/88	9.0 2795
STRIP	3.90	33.90	62.90	3.20	WYOMING	W190677	5.00	0.70	373458	815300	B	14370	09/01/88	4.5 2579
	1.90	23.50	73.10	3.40	WYOMING	W192723	4.90	0.90	373515	812902	B	15210	09/01/88	9.0 2255

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	Carb <sub>3</sub> O <sub>1</sub>	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp
UNDERGROUND						W192715	373545	812550	B	14610	09/01/88
1.50	18.60	74.90	6.50	83.30	4.50	1.50	2.80	1.40		9.0	2192
UNDERGROUND	4.80	30.80	62.90	6.30	78.80	W193029	373559	815554	B	13760	09/01/88
1.70	18.10	72.50	9.40	81.40	4.70	0.60	8.10	1.50		1.0	2804
UNDERGROUND	5.20	33.00	53.00	14.00	72.50	W189258	373609	812331	B	14040	09/01/88
2.00	32.80	57.40	9.80	77.30	4.80	0.90	2.90	1.10		5.5	2732
UNDERGROUND	0.60	17.20	78.10	4.70	85.60	W189260	373635	820800	B	12550	09/01/88
FOCAHONTAS NO 6	0.60	22.30	75.40	2.30	87.60	W194374	373700	811045	B	13550	09/01/88
UNDERGROUND	2.00	16.00	79.30	4.70	85.60	4.40	1.60	2.40	1.40	7.5	2354
STRIP	4.00	26.50	69.90	3.50	84.60	W194988	373709	813636	B	14910	09/01/88
UNDERGROUND	2.40	34.80	58.60	6.60	80.10	W187036	373741	811012	B	15390	09/01/88
NO 5 MINE, JUMAERIS COAL CO	3.70	17.80	77.80	4.40	85.80	W194990	373750	815729	B	14300	09/01/88
UNDERGROUND	2.30	33.60	58.10	8.30	78.40	W195025	373812	820518	B	15040	09/01/88
STRIP	3.10	35.10	57.90	7.00	79.20	W15027	373831	820632	B	15020	09/01/88
UNDERGROUND	2.30	37.20	58.70	4.10	82.00	W195038	373845	820938	B	14720	09/01/88
UNDERGROUND	1.30	17.60	79.40	3.00	87.10	W190327	373900	810345	B	15110	09/01/88
UNDERGROUND	2.80	35.10	56.20	8.70	76.40	W190673	373907	821222	B	13680	09/01/88

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Hgt Val	Last Chg
									Nitrogen	Hardgrove	Free Swell			Hemi Temp
UNDERGROUND	2.90	35.20	61.60	3.20	MINGO	83.40	5.20	0.70	W191119	373941	815258	B	14820	09/01/88 2912
POCAHONTAS NO 3	0.70	14.50	72.80	12.70	MERCER		4.20	0.50	W194387	373945	810250	B	13640	09/01/88 2804
UNDERGROUND	2.60	33.10	59.70	7.20	MINGO		5.10	0.60	W190674	373948	821159	B	13800	09/01/88 2759
STRIP	1.30	33.40	63.00	3.60	WYOMING		4.90	0.90	W193951	373956	814234	B	14880	09/01/88 2804
UNDERGROUND	2.70	35.10	58.10	6.80	MINGO	79.00	5.10	1.50	W191868	374003	815308	B	14170	09/01/88 2579
UNDERGROUND	3.20	33.90	55.60	10.50	MINGO	75.90	4.90	0.50	W191873	374012	821437	B	13400	09/01/88 2813
STRIP	1.60	34.70	52.50	12.80	LOGAN	73.90	4.90	3.00	W195044	374021	815123	B	13420	09/01/88 2543
STRIP	3.00	33.90	58.90	7.20	LOGAN		5.00	1.50	W195068	374021	815419	B	14060	09/01/88 2453
UNDERGROUND	4.10	33.00	57.60	9.40	MINGO	76.90	5.10	0.70	W190575	374026	821433	B	13620	09/01/88 2912
STRIP	3.50	34.70	55.60	9.70	BOONE		5.00	0.80	W195041	374036	815148	B	13670	09/01/88 2804
STRIP	2.00	36.40	57.70	5.90	LOGAN	80.80	5.20	0.60	W195043	374037	815145	B	14430	09/01/88 2804
UNDERGROUND	5.90	32.10	61.70	6.20	LOGAN	75.80	5.20	1.50	W195067	374039	815152	B	13630	09/01/88 2786
UNDERGROUND	2.00	34.70	54.80	10.50	LOGAN		5.10	0.70	W195066	374046	815133	B	14890	09/01/88 2606
UNDERGROUND	2.50	34.80	61.70	3.50	LOGAN	83.40	5.60	0.60	W189294	374040	815130	B	12940	09/01/88 0.0
STRIP	1.60	34.80	53.90	11.30	LOGAN		4.80	0.60	W195042	374046	815148	B	13550	09/01/88 2804
UNDERGROUND	1.90	34.40	56.90	8.70	LOGAN	76.60	5.10	1.70	W189295	374047	815130	B	13640	09/01/88 2507

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Fxd Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
UNDERGROUND		LOGAN		81.80	5.30	0.50	W189293	374048 6.80	814820 1.40	B	14490	09/01/88 7.5 2696
1.80	33.80	62.00	4.20				W195054	374049 6.50	815320 1.50	B	14590	09/01/88 9.0 2759
2.60	35.30	60.20	4.50	81.60	5.20	0.70						
UNDERGROUND		LOGAN		76.50	5.00	2.30	W195056	374054 5.30	815328 1.30	B	13790	09/01/88 8.0 2309
1.80	35.80	54.60	9.60				W195037	374116 7.60	821356 1.70	B	14520	09/01/88 5.5 2759
UNDERGROUND		MINGO		81.10	5.50	0.60						
3.90	39.80	56.70	3.50				W193955	374120 7.90	820710 1.40	B	12410	09/01/88 1.0 2804
4.40	32.70	52.70	14.60	70.80	4.50	0.80						
UNDERGROUND		MINGO		73.70	4.80	0.80	W189338	374123 7.70	821545 1.50	B	13080	09/01/88 2.5 2912
4.00	35.90	52.60	11.50				W195022	374135 6.50	815630 1.40	B	13520	09/01/88 6.0 2804
STRIP		LOGAN		75.50	5.00	0.90						
3.10	34.50	54.80	10.70				W189292	374153 6.50	814310 1.30	B	13680	09/01/88 8.5 2912
UNDERGROUND		WYOMING		76.60	5.10	0.60						
1.50	34.30	55.80	9.90				W195060	374158 5.80	815313 1.50	B	14510	09/01/88 9.0 2804
UNDERGROUND		LOGAN		81.50	5.10	0.90						
2.60	34.90	59.90	5.20				W195057	374204 6.00	815410 1.40	B	13800	09/01/88 8.5 2768
UNDERGROUND		LOGAN		77.20	5.10	1.10						
2.10	35.60	55.20	9.20				W195036	374224 6.80	814739 1.50	B	14900	09/01/88 6.0 2462
STRIP		LOGAN		84.10	5.20	0.60						
4.60	33.20	65.00	1.80				W195125	374229 6.40	814740 1.40	B	13650	09/01/88 7.5 2912
UNDERGROUND		LOGAN		76.90	4.90	0.70						
2.90	33.20	57.10	9.70				W195058	374314 5.60	815500 1.40	B	14520	09/01/88 8.5 2543
UNDERGROUND		WYOMING		83.40	5.10	0.60						
1.90	35.70	58.70	5.60	81.60	5.10	0.70						
UNDERGROUND		MINGO		75.40	5.00	1.10	W189337	374359 7.50	821137 1.40	B	13520	09/01/88 4.5 2912
3.00	36.70	53.70	9.60				W1'5021	374423 6.20	815643 1.70	B	14670	09/01/88 9.0 2147
UNDERGROUND		LOGAN		81.70	5.2.	1.40						
3.20	33.60	62.60	3.80									

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Oxygen	Latitude	Longitude	Rank	Htg Val	Last Chg
UNDERGROUND					LOGAN	W195020	0.90	5.20	0.90	374447	815438	B	14800	09/01/88
3.10	33.20	63.40	3.40	83.00						6.10	1.40		8.5	2057
UNDERGROUND					LOGAN	W189295	0.60	5.10	0.60	374511	815108	B	13860	09/01/88
1.40	32.90	58.40	8.70	77.70						6.80	1.10		9.0	2912
STRIP					MINGO	W195033	0.80	5.00	0.40	374524	821805	B	13690	09/01/88
5.20	35.40	57.50	7.10	77.20						8.40	1.50		3.0	2786
MAPLE MEADOW MINE					RALEIGH	W201763	0.40	4.10	0.40	3.50	1.20		9.0	2912
1.20	18.50	69.90	11.60	79.20										
STRIP					MINGO	W195030	0.70	5.10	0.70	374528	821815	B	13920	09/01/88
4.20	38.30	54.30	7.40	77.60						7.60	1.60		5.0	2804
UNDERGROUND					WYOMING	W192738	0.90	5.60	0.90	374553	814207	B	14560	09/01/88
3.60	35.70	59.20	5.10	81.60						5.60	1.20		9.0	2669
UNDERGROUND					WYOMING	W191889	2.60	5.30	2.60	374623	812925	B	14820	09/01/88
4.70	31.70	64.00	4.30	83.10						3.70	1.00		9.0	2228
BELVA COAL CO. MINE 5A					LOGAN	W187039	0.90	4.70	0.90	374626	815843	B	13160	09/01/88
5.90	35.10	54.70	10.20	74.70						8.10	1.40		2.0	2894
STRIP					LOGAN	W195003	1.10	4.20	1.10	374627	814118	B	11410	09/01/88
3.70	29.00	47.30	23.70	64.10						5.80	1.10		4.5	2804
STRIP					LOGAN	W195001	0.90	4.80	0.90	374631	814049	B	13780	09/01/88
2.70	31.60	58.30	10.10	77.00						5.80	1.40		6.0	2804
WEDGEWOOD MINING					LOGAN	W187007	0.80	4.30	0.80	374642	815256	B	12060	09/01/88
5.00	33.90	49.60	16.50	68.80						8.40	1.20		1.5	2912
UNDERGROUND					LOGAN	W191903	0.60	5.50	0.60	374644	815040	B	13890	09/01/88
2.40	32.60	58.30	9.10	78.30						5.50	1.00		8.5	2912
ELKAY MINING CO. WADE NO 1					LOGAN	W187035	0.80	5.10	0.80	374645	815404	B	13750	09/01/88
5.50	38.10	53.00	8.90	76.60						7.10	1.50		4.5	2912
UNDERGROUND					LOGAN	W191901	1.80	5.20	1.80	374647	815028	B	13910	09/01/88
2.30	34.90	56.80	8.30	77.70						5.90	1.10		9.0	2543
STRIP					LOGAN	W192710	0.70	5.10	0.70	374650	814431	B	13600	09/01/88
1.70	32.20	56.80	11.00	76.40						5.70	1.10		8.5	2912
STRIP					RALEIGH	W194981	1.60	4.30	1.60	374654	810827	B	14450	09/01/88
2.80	17.50	74.90	7.60	82.90						2.40	1.20		7.0	2561

Coal Field Information Printout for: WV - West Virginia

Location	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg		
Volatile Moisture	Volatile Crbn	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Fres Swell	Hemi Temp
ELK MINING CO, MINE 1 2.60 35.30	LOGAN 58.40 6.30	81.00 5.10	1.10 5.10	5.10 1.10	374734 W187010	114460 B	14460 7.0	09/01/88 2723	
PERRY BRANCH COAL CO, MINE 1 3.20 32.00	LOGAN 45.20 22.80	64.80 4.30	0.60 0.70	6.40 5.90	374758 W187014	11450 B	11450 4.0	09/01/88 2912	
UNDERGROUND 3.10 32.10	LOGAN 54.20 13.70	73.80 4.60	0.70 0.70	5.90 1.30	374804 W194993	13000 B	13000 7.5	09/01/88 2804	
	LOGAN 3.20 35.80	58.50 5.70	81.30 5.20	0.90 0.90	374810 W187033	14500 B	14500 7.5	09/01/88 2516	
STRIP 4.60 27.40	RALEIGH 69.20 3.40	85.30 5.00	2.00 2.90	2.90 1.40	374818 W191862	15160 B	15160 9.0	09/01/88 2192	
CORE 2.80 32.70	LOGAN 60.00 7.30	79.70 5.10	1.10 1.10	5.40 5.40	374802 W195039	14260 B	14260 9.0	09/01/88 2741	
MINE 8B, BUFFALO MINING CO 2.60 34.20	LOGAN 49.70 16.10	71.50 4.60	0.90 0.90	5.60 5.60	374820 W187034	12670 B	12670 6.0	09/01/88 2912	
UNDERGROUND 3.90 25.20	LOGAN 45.50 29.30	59.00 3.80	0.60 0.60	6.30 6.30	374830 W194995	10370 B	10370 3.0	09/01/88 2804	
UNDERGROUND 2.50 35.80	LOGAN 53.60 10.60	76.80 5.00	0.90 0.90	5.40 5.40	374841 W189252	13630 B	13630 7.0	09/01/88 2912	
UNDERGROUND 0.60 38.70	LOGAN 53.60 7.70	80.80 5.80	0.70 0.70	3.50 3.50	374842 W190686	14770 B	14770 4.5	09/01/88 2228	
B&S COAL CO, MINE 1 5.50 30.50	LOGAN 47.30 22.20	66.00 4.10	0.40 0.40	6.10 6.10	374845 W187012	11590 B	11590 2.5	09/01/88 2912	
UNDERGROUND 3.50 18.00	SUMMERS 73.50 8.50	82.10 4.40	1.10 1.10	2.60 2.60	374857 W210191	14280 B	14280 9.0	09/01/88 2804	
UNDERGROUND 2.30 20.00	RALEIGH 77.30 2.70	85.80 5.10	0.70 0.70	3.10 3.10	374913 W206550	15250 B	15250 9.0	09/01/88 2804	
UNDERGROUND 1.30 29.80	LOGAN 50.40 19.80	67.50 4.60	0.90 0.90	6.20 6.20	374916 W189291	12000 B	12000 5.5	09/01/88 2912	
UNDERGROUND 2.60 35.40	LOGAN 53.40 11.20	75.50 4.90	1.60 1.60	5.40 5.40	374918 W189261	13440 B	13440 6.0	09/01/88 2678	
YOUNGSTOWN MINES, DEHUE, 7B 2.20 34.70	LOGAN 57.90 7.40	78.50 5.10	0.60 0.60	6.90 6.90	374925 W187038	14000 B	14000 8.0	09/01/88 2912	

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Ash	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg	
UNDERGROUND			MINGO	78.10	5.20	0.80	W191872	374955	822301	B	13960	09/01/88	
3.10	38.70	54.80	6.50	78.10	5.20	0.80		8.10	1.30		3.5	2912	
UNDERGROUND	2.40	55.20	11.90	75.80	4.80	1.00	W194984	375009	813739	B	13520	09/01/88	
2.60	30.90	58.70	10.40	77.90	4.90	0.50	W189342	375047	813332	B	13740	09/01/88	
STRIP	3.80	49.70	13.60	72.20	4.80	0.70	W195018	375047	815657	B	12900	09/01/88	
3.10	19.10	70.70	10.20	78.30	4.80	1.00	W206538	375056	80523	B	13910	09/01/88	
UNDERGROUND	2.10	59.60	9.30	78.70	5.10	0.70	W191123	375057	813325	B	14000	09/01/88	
3.60	32.60	58.60	8.80	79.10	5.00	2.30	W191121	375143	813554	B	14170	09/01/88	
STRIP	4.90	58.40	11.90	74.40	4.90	1.00	W190676	375148	822205	B	14240	09/01/88	
3.60	35.70	59.40	3.90	80.20	5.40	0.80	W191902	375231	813336	B	13240	08/01/88	
STRIP	4.30	57.90	9.60	77.80	5.00	0.70	W191900	375231	813337	B	13760	09/01/88	
4.30	33.20	54.50	12.30	74.70	5.10	0.70	W191899	375231	813338	B	13230	09/01/88	
STRIP	6.60	32.40	61.10	6.50	78.10	4.90	0.60	W191897	375231	813339	B	13650	09/01/88
UNDERGROUND	1.90	73.70	7.60	82.80	4.60	1.30	W206544	375234	804644	B	14280	09/01/88	
3.10	37.70	53.00	9.30	76.70	5.00	0.60	W187025	375237	815540	B	13610	09/01/88	
BETTY MINE	2.50	56.10	9.00	77.50	4.90	0.90	W187024	375253	814930	B	13690	09/01/88	
STRIP	3.40	51.90	16.00	71.30	4.60	0.70	W195040	375257	814216	B	12610	08/01/88	

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen	Hardgrove	Free Swell		Hemi Temp	
UNDERGROUND	2.30	31.80	62.70	5.50	82.30	5.10	0.70	W195047	375258	813035	B	14680	09/01/88
	1.60	18.90	63.60	17.50	72.20	4.20	0.90		5.00	1.40		9.0	2804
UNDERGROUND	4.20	41.00	51.20	WAYNE	W197011	5.00	2.30	W206566	375314	805534	B	12630	09/01/88
									3.80	1.40		8.0	2912
STRIP	4.60	28.60	63.00	RALEIGH	W206549	5.00	0.80	W206549	375314	822316	B	13680	09/01/88
									7.10	1.50		5.0	2129
STRIP	2.60	25.10	70.00	FAYETTE	W206542	4.80	0.60	W206542	375332	811836	B	13900	09/01/88
									3.80	1.70		8.5	2804
UNDERGROUND	2.30	34.20	59.40	RALEIGH	W189339	5.10	0.50	W189339	375350	813003	B	14870	09/01/88
									5.30	1.50		9.0	2804
UNDERGROUND	1.70	26.00	49.00	BOONE	W191114	6.40	0.60	W191114	375356	813340	B	14410	09/01/88
						4.30	0.60		5.90	1.00		6.5	2912
UNDERGROUND	4.30	34.30	57.30	BOONE	W191880	77.40	5.10	W191880	375404	814354	B	13760	09/01/88
						8.40	0.60		7.20	1.10		7.0	2912
UNDERGROUND	2.80	35.60	53.00	LOGAN	W195063	73.50	4.70	W195063	375405	815155	B	13210	09/01/88
						11.40	1.60		7.50	1.30		3.5	2912
JEAN MINE	3.10	32.40	48.90	LOGAN	W187023	68.30	4.50	W187023	375415	815016	B	12140	09/01/88
						18.70	1.10		6.20	1.20		6.5	2912
STRIP	2.10	21.20	73.00	FAYETTE	W206545	83.20	4.90	W206545	375421	811357	B	14630	09/01/88
						5.80	2.20		2.20	1.70		9.0	2147
UNDERGROUND	3.60	37.00	57.80	LOGAN	W191887	79.90	5.20	W191887	375431	814540	B	14270	09/01/88
						5.20	1.10		7.50	1.10		7.0	2786
STRIP	4.50	22.90	74.70	FAYETTE	W206546	87.20	5.00	W206546	375433	810758	B	15220	09/01/88
						2.40	0.60		2.90	1.90		9.0	2516
UNDERGROUND	2.40	32.50	53.90	LOGAN	W195062	73.50	4.70	W195062	375444	814851	B	12990	09/01/88
						13.60	0.90		5.90	1.40		7.0	2804
STRIP	5.10	36.80	60.70	LOGAN	W195055	82.80	5.20	W195055	375450	815805	B	14700	09/01/88
						84.20	0.70		7.20	1.60		5.0	2543
STRIP	3.00	19.90	74.30	GREENBRIER	W206540	4.70	0.90	W206540	375456	804630	B	14630	09/01/88
						5.80	3.10		1.30			9.0	2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND	1.50	33.10	64.60	2.30	RALEIGH	W191117	375503	813321	B	15040	09/01/88
UNDERGROUND	3.20	38.20	54.50	7.30	LOGAN	W195061	375507	814751	B	13970	09/01/88
BUFFALO NO 4 MINE	2.40	31.10	39.70	29.20	LOGAN	W187022	375512	815120	7	7.5	2804
UNDERGROUND	3.40	33.60	54.60	11.80	BOONE	W191881	375556	813400	B	11190	09/01/88
UNDERGROUND	3.50	34.90	55.00	10.10	BOONE	W191882	375556	814400	B	13340	09/01/88
STRIP	3.80	19.90	74.30	5.80	GREENBRIER	W205339	375600	804257	B	14650	09/01/88
UNDERGROUND	3.90	36.50	58.20	5.30	BOONE	W191115	375612	813615	B	13600	09/01/88
UNDERGROUND	2.20	35.50	60.60	3.90	LOGAN	W195034	375634	815625	B	14620	09/01/88
UNDERGROUND	2.80	30.60	51.50	17.90	BOONE	W191884	375636	814350	B	8.5	2624
2-C MIFFLIN MINE	2.80	34.60	54.40	11.00	BOONE	W187021	375703	815015	B	14220	09/01/88
PRAIT MINING CO	2.20	31.40	63.10	5.50	FAYETTE	D170192	375728	811915	B	13260	09/01/88
PRAIT MINING CO	2.40	30.20	63.20	6.60	FAYETTE	D170191	375729	811917	B	14480	09/01/88
UNDERGROUND	2.60	23.80	67.10	9.10	GREENBRIER	W210130	375810	803613	E	14100	09/01/88
UNDERGROUND	1.80	38.00	55.10	6.90	BOONE	W191885	375815	813914	B	9.0	2804
STRIP	5.10	23.00	71.20	5.80	GREENBRIER	W210190	375820	803316	B	14520	09/01/88
STRIP	2.70	23.40	70.50	6.10	GREENBRIER	W210134	375829	803659	B	14630	09/01/88

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Content	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
STRIP 4.80	27.50	70.30	2.20	85.70	5.10	0.60	W206547	375834	810406	B	15140	09/01/88 2660
STRIP 2.70	31.00	62.70	6.30	81.70	5.10	0.80	W210338	375911	811917	B	14620	09/01/88 2804
UNDERGROUND 3.30	25.00	70.10	4.90	83.90	4.70	0.70	W210124	375931	805436	B	14750	09/01/88 2804
C D NO 36 MINE 1.80	33.30	61.60	5.10	83.20	5.10	0.50	D170188	375946	812345	B	14740	09/01/88 2912
UNDERGROUND 3.70	37.30	54.90	7.80	77.60	5.20	0.70	W195052	375937	815516	B	13180	09/01/88 2804
STRIP 4.30	36.20	54.00	9.80	74.00	5.00	2.10	W195017	375938	815518	B	13390	09/01/88 2165
STRIP 2.80	34.40	44.10	21.50	65.40	4.60	0.50	W195016	375938	815520	B	11630	09/01/88 2804
STRIP 3.70	37.20	58.40	4.40	79.50	5.30	1.70	W195013	375938	815529	B	14340	09/01/88 2057
STRIP 4.10	36.30	56.20	7.50	77.50	5.10	0.90	W195014	375959	815521	B	13940	09/01/88 2561
1.60	29.90	68.10	2.00	85.90	5.00	0.50	D168088	380000	810730	B	15190	09/01/88 0
2.10	24.90	72.10	3.00	85.00	4.70	0.60	D161644	380010	810235	B	14750	09/01/88 0
OMAR MINING, CHESTERFIELD 3 3.50	35.60	53.30	11.10	75.80	4.80	0.60	W187015	380025	814439	B	13340	09/01/88 2912
STRIP 4.20	31.80	63.20	5.00	82.20	5.50	0.70	W206541	380026	811025	B	14710	09/01/88 2804
STRIP 1.60	32.00	61.00	7.00	81.20	5.10	0.90	W210336	380026	811845	B	14490	09/01/88
UNDERGROUND 2.50	32.60	58.10	9.30	75.10	5.00	0.90	W210332	380035	812309	B	13930	09/01/88 2804
UNDERGROUND 2.20	26.60	69.00	4.40	84.40	5.00	0.80	W210182	380056	805335	B	14840	09/01/88 2804

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Ash	Frd Crbn	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
			Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Fres Swell	Hemi Temp
STRIP 3.70	26.00	66.10	7.90	79.50	4.90	1.30	4.70	803351	B	14330 9.0 2759
STRIP 6.30	25.50	67.20	7.30	81.00	4.90	1.30	3.90	803542	B	14390 9.0 2660
DAUGHERTY MINING CO, MINE 1 4.20	36.80	59.90	3.30	82.30	5.30	0.70	6.90	814533	B	14670 7.5 2669
STRIP 5.90	26.40	69.20	4.40	84.20	5.30	0.60	3.80	805736	B	14790 9.0 2804
UNDERGROUND 1.10	36.10	51.60	12.30	74.40	4.90	0.90	6.10	812109	B	13200 7.5 2912
OMAR MINING, CHESTERFIELD 5 2.50	37.20	50.80	12.00	73.90	4.80	0.90	7.00	814300	B	13240 5.5 2912
UNDERGROUND 3.90	35.30	59.10	5.60	79.50	5.50	0.80	7.20	814200	B	14150 6.5 2912
STRIP 4.20	34.80	57.80	7.40	77.20	4.90	0.70	8.30	815518	B	13740 4.5 2804
UNDERGROUND 3.10	24.90	68.30	6.80	81.50	4.70	1.20	4.50	803824	B	14400 9.0 2804
EXPANSION MINING CO, MINE 1 3.10	34.30	46.50	19.20	67.60	4.40	0.60	7.00	814134	B	11910 5.0 2912
STRIP 2.90	27.00	67.30	5.70	81.80	4.70	1.20	4.80	803023	B	14630 9.0 2750
STRIP 1.20	52.10	38.80	9.10	75.80	6.40	1.00	6.20	815438	B	14270 0.5 2128
STRIP 2.50	25.80	65.10	9.10	79.80	4.80	1.20	3.60	803525	B	14020 9.0 2759
BETHLEHEM MINE 1.70	35.40	53.70	10.90	76.20	5.10	0.70	5.60	812628	B	13610 7.0 2912
STRIP 3.90	25.90	70.90	3.20	84.60	5.10	1.10	4.20	804541	B	14960 9.0 2354
UNDERGROUND 2.70	31.60	59.40	9.00	77.70	4.90	0.90	6.00	813323	B	13860 0.0 2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Cod	Number	Sulfur	Latitude	Longitude	Rank	Htg Val	Last Chg
								Oxygen	Nitrogen	Hardgrove	Frie Swell			
UNDERGROUND				KANAWHA		W190604		380250	812633	B	13620	09/01/88		
2.70	35.50	54.70	9.80	76.60	4.90	1.50	5.90	1.30		6.5	2894			
STRIP	2.50	32.40	53.50	14.10	73.20	4.70	0.60	6.10	1.30		13060	09/01/88		
STRIP	5.50	34.60	57.30	8.10	75.80	4.90	0.70	9.00	1.50		5.0	2804		
STRIP	3.20	34.70	53.60	11.70	74.70	4.80	0.60	6.90	1.30		1.0	2777		
UNDERGROUND				GREENBRIER		W210133		380358	803810	B	14700	09/01/88		
2.50	25.70	68.00	6.30	82.60	4.90	1.00	3.30	1.90		9.0	2516			
STRIP	3.00	24.60	69.70	5.70	83.20	5.00	0.80	4.00	1.50		14630	09/01/88		
UNDERGROUND				FAYETTE		W205551		380400	804630	B	14630	09/01/88		
2.40	25.80	65.40	8.80	79.70	5.00	0.80	4.10	1.60		9.0	2804			
STRIP	5.20	37.00	47.60	15.40	67.50	4.70	2.00	8.90	1.50		0.0	2759		
STRIP	2.70	26.60	66.20	7.20	81.20	4.90	1.30	3.60	1.80		12110	09/01/88		
1.90	26.00	71.10	2.90	84.30	4.70	0.50	6.10	1.50		0.0	0			
UNDERGROUND				GREENBRIER		W210107		380445	810550	B	14620	09/01/88		
5.10	26.00	69.80	4.20	83.50	5.00	0.90	4.50	1.90		9.0	2354			
UNDERGROUND				BOONE		W192736		380504	814401	B	14760	09/01/88		
2.50	36.90	56.70	6.40	77.60	5.40	3.30	6.20	1.10		6.5	2084			
STRIP	4.30	34.90	52.00	13.10	71.80	5.00	1.60	7.00	1.50		14110	09/01/88		
UNDERGROUND				LOGAN		W195045		380540	813445	B	12920	09/01/88		
3.70	34.40	55.00	10.60	75.50	4.80	0.60	7.00			5.0	2642			
UNDERGROUND				WAYNE		D184662		380545	823047	B	11880	09/01/88		
6.80	35.70	48.80	15.50	66.90	4.70	0.90	10.50	1.40		0.0	2804			
DRIFT	3.20	36.80	60.40	KANAWHA		W210283		380639	812133	B	14730	09/01/88		
											8.0	2660		

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Ht <sub>E</sub> Val	Last Chg
UNDERGROUND			FAYETTE	W210116	5.30	0.60	38064E	805701	B	14830	09/01/88	
2.80	27.80	68.30	3.90	84.40	5.40	4.10	380708	812816	B	14410	09/01/88	
2.10	39.40	55.70	KANAWHA	W210284	5.40	0.80	380727	815234	B	12750	09/01/88	
STRIP			BOONE	W195005	4.50	1.10	7.50	1.40		2.5	2804	
4.00	32.20	54.10	13.70	71.80	5.30	0.60	380729	812358	B	14630	09/01/88	
UNDERGROUND			KANAWHA	W190622	4.00	1.10	7.50	1.40		7.0	2912	
3.20	37.50	58.50	4.00	82.10	5.20	0.90	380730	813048	B	14010	09/01/88	
UNDERGROUND			KANAWHA	W210329	5.20	0.90	7.10	1.40		6.0	2804	
3.40	36.20	57.40	6.40	79.00	5.20	0.90	380734	803422	B	13380	09/01/88	
STRIP			GREENBRIER	W210129	4.60	1.10	5.00	1.60		9.0	2408	
3.70	25.80	61.70	12.50	75.20	5.20	0.60	380735	811223	B	11710	09/01/88	
15.10	35.20	58.80	6.00	71.60	3.80	0.60	380740	813020	B	0.0	2462	
UNDERGROUND			KANAWHA	W210328	5.10	1.10	7.90	1.40		6.5	2804	
3.10	34.70	54.80	10.50	74.00	5.10	1.10	380740	815327	B	13390	09/01/88	
STRIP			BOONE	W195009	5.10	1.70	8.30	1.60		4.0	2201	
3.60	35.10	56.00	8.90	74.40	5.10	1.70	380742	812218	B	12220	09/01/88	
STOCKTON NO 2 MINE			KANAWHA	D170196	4.50	3.30	5.50	1.20		2.5	2390	
1.90	34.70	47.30	18.00	67.50	4.50	3.30	380744	812447	B	14070	09/01/88	
DRIFT			KANAWHA	W210286	5.20	0.60	7.90	1.20		6.0	2804	
2.40	37.60	54.90	7.50	77.60	5.20	0.50	380808	812300	B	10440	09/01/88	
DRIFT			KANAWHA	W210285	4.10	0.50	6.90	1.10		2.0	2804	
1.70	28.60	41.90	29.50	57.90	4.70	1.30	380820	803549	B	13500	09/01/88	
UNDERGROUND			GREENBRIER	W191892	4.80	2.90	5.90	1.10		8.5	2804	
2.10	26.00	62.40	11.60	76.30	5.30	0.70	380826	814354	B	5.0	2651	
UNDERGROUND			BOONE	W191897	5.50	0.90	7.50	1.50		2.5	2444	
3.10	31.00	53.80	15.20	70.10	5.30	0.70	380825	813714	B	12630	09/01/88	
STRIP			BOONE	W191875	5.20	0.70	6.70	1.50		6.0	2192	
3.80	37.90	58.50	3.60	82.20	5.30	0.70	380826	814355	B	14280	09/01/88	
STRIP			BOONE	W191876	5.50	0.90	7.50	1.50		2.5	2444	

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	County	Ash	Carb.%	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
							Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
STRIP	4.40	37.10	55.20	BOONE	7.70	75.80	4.90	2.70	7.60	1.30	4.5	2282
STRIP	7.90	28.60	58.30	NICHOLAS	3.10	84.80	5.00	0.70	4.80	1.60	8.5	2804
UNDERGROUND	1.80	34.30	57.80	KANAWHA	7.90	77.60	5.3	0.80	7.00	1.40	4.5	2183
MORTON MINE	2.50	35.90	55.00	KANAWHA	9.10	77.30	5.00	0.80	6.40	1.40	6.5	2534
UNDERGROUND	3.40	34.60	55.00	KANAWHA	10.40	76.40	4.90	0.60	6.40	1.30	6.0	2912
UNDERGROUND	3.50	27.50	67.70	NICHOLAS	4.80	83.70	5.10	0.60	4.10	1.70	9.0	2804
UNDERGROUND	2.40	31.90	62.20	FAYETTE	5.90	80.40	5.10	0.70	6.30	1.60	8.5	2912
UNDERGROUND	2.80	37.20	58.80	KANAWHA	4.00	81.80	5.30	0.70	6.60	1.60	7.5	2912
NO 1 MINE	1.90	33.40	51.00	KANAWHA	15.60	71.60	4.70	0.60	6.30	1.20	3.5	2912
NO 5 BLOCK MINE	2.30	36.60	58.30	FAYETTE	5.10	80.50	5.20	0.80	6.80	1.60	7.0	2912
UNDERGROUND	4.00	33.10	56.00	FAYETTE	10.90	75.30	4.70	1.00	6.60	1.50	4.5	2804
UNDERGROUND	3.90	35.50	52.80	KANAWHA	11.70	74.10	5.10	0.80	6.70	1.60	5.5	2804
UNDERGROUND	2.00	35.10	55.70	FAYETTE	9.20	77.60	5.20	1.70	4.80	1.50	8.0	2480
UNDERGROUND	4.00	27.60	69.20	NICHOLAS	3.20	82.50	5.20	0.50	6.90	1.70	9.0	2804
UNDERGROUND	3.00	36.10	60.40	FAYETTE	3.50	83.30	5.40	0.70	5.50	1.60	8.5	2788
STRIP	2.60	33.60	62.00	FAYETTE	4.40	81.90	5.60	0.90	5.20	2.00	9.0	2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell		
CANNELTON CO MINE	1.70	36.40	62.10	1.50	85.30	D182638	5.40	0.60	381055	811332	B	15260	09/01/88	2624
SEMET-SOLWAY STRIP MINE	3.20	34.10	57.90	8.00	77.80	D182635	4.80	0.60	381056	811639	B	13820	09/01/88	2804
STRIP	4.00	36.10	53.10	10.80	73.00	W210339	4.80	1.80	381108	813141	B	13170	09/01/88	2804
UNDERGROUND	3.10	29.20	66.30	4.50	83.10	W210120	5.30	0.90	381134	804003	B	14750	09/01/88	2606
UNDERGROUND	3.30	28.50	64.40	7.10	80.00	W210119	5.00	1.60	381135	804142	B	14260	09/01/88	2804
UNDERGROUND	2.10	36.90	53.40	9.70	76.70	W190632	5.10	0.80	381139	812056	B	13620	09/01/88	2912
UNDERGROUND	2.70	35.60	53.20	11.20	76.20	W190613	4.80	0.50	381152	813531	B	13450	09/01/88	2912
UNDERGROUND	2.80	35.20	63.80	1.00	85.00	W190617	5.30	0.70	381203	811444	B	15060	09/01/88	2246
UNDERGROUND	3.10	34.60	51.90	13.50	71.60	W190612	4.70	2.70	381211	813502	B	12830	09/01/88	2453
UNDERGROUND	1.80	33.60	50.30	16.10	71.10	W190616	4.80	1.00	381231	311146	B	12700	09/01/88	
UNDERGROUND	2.60	30.10	66.90	3.00	84.00	W210178	5.10	0.80	381236	804041	B	14910	09/01/88	2552
UNDERGROUND	2.30	34.40	56.20	9.40	77.90	W190624	5.00	0.70	381242	811640	B	13020	09/01/88	
UNDERGROUND	2.30	36.30	61.70	2.00	83.80	W190625	5.40	0.70	381244	811639	B	14930	09/01/88	2334
UNDERGROUND	2.30	35.10	54.80	10.10	76.50	W190687	5.00	0.70	381255	812040	B	13580	09/01/88	
CANNELTON CO MINE	4.70	37.30	50.30	12.40	71.10	W187020	4.80	0.80	381310	821207	B	12630	09/01/88	2912
	1.00	35.40	58.80	5.80	80.90	D182641	5.10	0.60	381332	811055	B	14550	09/01/88	2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Fxd Czbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
CANNELTON CO MINE	1.50	31.00	49.00	20.00	67.20	4.40	2.40	4.80	D162640	381332	811355	B	12110	09/01/88
	2.50	31.60	53.30	15.10	72.00	4.50	0.50	6.60	D162636	381337	811557	B	12700	09/01/88
UNDERGROUND	3.00	36.50	57.70	5.80	80.00	5.20	1.10	6.30	W190631	381345	811952	B	14240	09/01/88
UNDERGROUND	3.40	29.00	66.40	4.60	83.30	4.90	0.70	4.70	W210324	381350	804145	B	14680	09/01/88
UNDERGROUND	3.60	28.90	67.80	3.30	84.10	5.00	0.60	5.30	W210189	381355	803805	B	14950	09/01/88
UNDERGROUND	1.70	38.10	57.00	4.90	81.70	5.30	1.10	5.40	W190626	381411	811619	B	14620	09/01/88
	8.20	33.40	52.20	14.40	65.50	4.10	0.50	14.50	W188990	381411	812158	B	10900	09/01/88
UNDERGROUND	2.00	38.70	52.50	8.80	77.90	5.20	0.70	5.90	W190628	381420	811854	B	0.0	2912
STRIP	3.70	34.60	58.00	7.40	78.90	5.10	0.70	6.20	W210282	381432	810809	B	13920	09/01/88
UNDERGROUND	2.50	35.90	56.00	8.10	78.70	5.20	1.00	5.50	W190630	381441	311921	B	14000	09/01/88
UNDERGROUND	2.50	35.70	56.20	8.10	78.20	5.20	0.80	6.10	W190623	381458	811254	B	7.5	2453
UNDERGROUND	3.40	36.40	54.50	9.10	76.00	4.90	1.00	7.40	W190515	381538	812848	B	13980	09/01/88
UNDERGROUND	3.50	38.50	55.20	6.30	79.10	5.20	1.00	6.90	W190510	381541	812822	B	14150	09/01/88
VALLEY CAMP NO 35 MINE	3.60	33.10	56.10	10.80	76.30	4.70	0.70	6.00	D170194	381545	812826	B	13320	09/01/88
UNDERGROUND	3.10	31.30	64.90	3.80	83.10	5.10	0.70	5.60	W210181	381557	804407	B	14930	09/01/88
UNDERGROUND	2.80	34.00	53.40	12.60	74.20	4.70	0.70	6.50	W190609	381559	812207	B	13080	09/01/88

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
						Oxygen							
UNDERGROUND	3.80	37.20	53.00	9.80	75.50	4.90	0.90	W190511	381611	812758	B	13420	09/01/88 5.5 2912
SURFACE	2.60	40.20	54.50	5.30	79.70	5.20	0.70	W190514	381612	812829	B	14180	09/01/88 5.5 2912
UNDERGROUND	3.10	34.50	52.00	13.50	72.80	4.80	0.70	W190606	381617	812315	B	12820	09/01/88 5.0 2912
UNDERGROUND	2.50	32.40	49.30	18.30	67.10	4.70	0.80	W189289	381617	812828	B	11750	09/01/88 1.0 2723
UNDERGROUND	2.50	30.20	58.00	11.80	75.70	4.70	3.90	W190637	381626	810138	B	13260	09/01/88 8.0 2462
UNDERGROUND	2.40	36.30	52.90	10.80	75.60	5.00	0.60	W190608	381628	812132	B	13410	09/01/88 5.5 2912
NO 1 MINE, DOUGLAS EAGLE CC	3.20	32.00	61.90	6.10	81.10	5.00	2.30	W187027	381645	810031	B	14240	09/01/88 8.5 2642
DRAFT	3.50	28.80	48.80	22.40	65.20	4.20	0.60	W210280	381650	811652	B	11490	09/01/88 3.5 2804
UNDERGROUND	2.10	31.70	64.60	3.70	83.90	5.20	0.80	W210184	381705	803924	B	14830	09/01/88 8.5 2597
UNDERGROUND	3.10	31.60	48.50	19.90	66.10	4.40	0.60	W190607	381728	812328	B	11710	09/01/88 3.0 2912
DRAFT	2.80	31.30	55.70	13.00	73.40	4.80	1.50	W210278	381730	805456	B	13180	09/01/88 8.5 2804
	6.10	29.50	52.70	17.80	62.60	3.90	0.50	W188994	381732	812141	B	10430	09/01/88 0.0 2912
UNDERGROUND	4.20	31.40	59.90	8.70	77.70	4.70	1.50	W190641	381742	805057	B	13780	09/01/88 7.5 2084
DRAFT	3.20	35.30	62.50	2.20	84.10	5.40	0.60	W210274	381743	805511	B	15010	09/01/88 9.0 2507
STRIP	2.90	34.60	55.90	9.50	76.60	5.20	0.90	W210271	381745	804556	B	13780	09/01/88 8.5 2570
DRAFT	2.90	32.90	62.40	4.70	81.80	5.10	0.70	W210276	381751	802113	B	14520	09/01/88 9.0 2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
								Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND					NICHOLAS		W210185	381804	804239	B	14460	09/01/88
2.30	30.10	64.30	5.60	81.70		5.10	1.00	5.00	1.60		8.5	2498
STRIP					NICHOLAS		W210277	381821	805319	B	13990	09/01/88
8.00	31.00	61.30	7.70	78.50		4.90	0.70	6.60	1.50		8.0	2804
HOLE B-88					KANAWHA		W210126	381836	814353	B	10990	09/01/88
2.70	37.80	40.70	21.50	59.90		4.60	7.00	6.00	1.00		4.5	2102
MINE 2A, PEERLESS EAGLE CC					NICHOLAS		W187028	381902	805154	B	14240	09/01/88
2.40	35.20	59.10	5.70	80.70		5.20	1.30	5.50	1.60		9.0	2282
UNDERGROUND					NICHOLAS		W190540	381105	805302	B	13660	09/01/88
2.20	34.60	57.00	8.40	77.90		4.80	1.20	6.40	1.30		8.0	2201
NO 1 MINE, STAR COAL CO					NICHOLAS		W187030	381906	805355	B	13550	09/01/88
3.30	32.60	56.90	10.50	76.70		4.80	0.60	6.00	1.40		8.0	2849
MINE 2B, PEERLESS EAGLE CC					KANAWHA		W188992	381908	811712	B	10240	09/01/88
1.60	25.90	46.20	27.90	58.70		4.00	0.70	7.70	1.00		1.5	2912
UNDERGROUND					KANAWHA		W188993	381912	811756	B	11610	09/01/88
4.20	32.30	47.80	19.90	65.70		4.40	1.40	7.30	1.30		1.5	2678
STRIP					NICHOLAS		W190639	381933	805141	B	13520	09/01/88
2.10	33.80	55.40	10.80	76.20		4.90	2.10	4.50	1.50		8.5	2912
STRIP					NICHOLAS		W210267	381935	804234	B	14880	09/01/88
2.70	34.90	62.80	2.30	83.60		5.30	0.80	6.20	1.80		8.5	2804
STRIP					NICHOLAS		W210275	381939	805008	B	14230	09/01/88
4.10	33.90	59.30	6.80	79.90		5.10	0.60	5.90	1.70		8.0	2804
UNDERGROUND					NICHOLAS		W190635	381939	805400	B	14030	09/01/88
3.50	33.30	58.90	7.80	79.50		5.00	0.50	5.70	1.50		8.0	2912
UNDERGROUND					NICHOLAS		W190636	381948	805538	B	14120	09/01/88
3.20	36.70	56.30	7.00	79.40		5.20	1.50	5.40	1.50		8.5	2453
STRIP					KANAWHA		W187031	381952	812201	B	12360	09/01/88
3.00	35.80	48.50	15.70	69.60		4.50	1.20	7.70	1.30		5.0	2912
NO 2 MINE, PHILLIPS RUN CC					NICHOLAS		W187026	382001	804852	B	13680	09/01/88
2.60	34.10	56.10	9.80	76.40		4.90	0.70	6.70	1.50		8.5	2192
STRIP					NICHOLAS		W210270	382047	804751	B	13400	09/01/88
3.00	33.60	55.70	10.70	75.90		5.00	1.10	6.00	1.30		8.5	2264

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Code Number	Sulfur	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val Hdgrove	Htg Val Free Swell.	Last Chg Hemi Temp
DRAFT 2.00	30.60	52.30	17.10	70.40	4.60	0.90	382050	805306	B	12520	09/01/88	8.0	2786
NO 2 MINE, BIG FORK COAL CO 1.20	32.50	52.80	14.70	72.50	4.50	0.70	382330	804901	B	12830	09/01/88	5.0	2912
STRIP 2.90	35.20	50.60	14.20	70.20	5.00	2.00	382457	802405	B	12610	09/01/88	5.0	2615
STRIP 3.70	36.60	61.50	1.90	83.60	5.70	0.80	382527	803103	B	15070	09/01/88	8.0	2282
STRIP 3.60	32.40	48.90	18.70	68.20	4.50	1.00	382528	804912	B	12080	09/01/88	4.5	2804
UNDERGROUND 3.50	32.60	48.20	19.20	67.30	4.50	0.80	382555	805220	B	12010	09/01/88	8.0	2804
STRIP 2.10	33.30	53.20	13.50	71.50	5.00	4.60	382605	803456	B	13010	09/01/88	9.0	2030
STRIP 5.20	34.80	62.90	2.30	83.50	5.50	0.60	382632	803106	B	15000	09/01/88	9.0	2309
UNDERGROUND 2.80	32.20	64.60	3.20	84.30	5.20	0.80	382641	802036	B	15020	09/01/88	8.5	2804
STRIP 4.00	29.60	62.80	7.60	78.80	4.70	0.70	382645	802229	B	13960	09/01/88	7.0	2804
STRIP 2.50	30.80	63.10	6.10	82.00	5.00	0.60	382650	802040	B	14520	09/01/88	7.0	0
UNDERGROUND 2.40	26.70	64.20	9.10	79.10	4.60	0.40	382651	802510	B	13680	09/01/88	6.5	2912
UNDERGROUND 3.90	37.90	48.50	13.60	70.70	5.00	3.70	382651	810806	B	12730	09/01/88	6.5	2192
STRIP 2.70	36.50	60.90	2.60	83.40	5.40	1.00	382657	802734	B	14970	09/01/88	8.5	2138
STRIP 2.20	30.00	65.70	4.30	83.30	5.50	0.80	382752	801945	B	14820	09/01/88	9.0	2669
STRIP 3.10	34.00	59.20	6.80	79.40	5.10	0.60	382854	803729	B	13970	09/01/88	8.0	2912

## Coal Field Information Printout for: WV - West Virginia

Location	Volatiles	Fxd Crbn	County	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Moisture	Ash	Carbon	Hydrogen	Sulfur	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
OUTCROP	1.20	28.90	58.50	12.60	74.70	4.80	0.40	6.50	0.90
OUTCROP	2.90	27.40	55.80	16.80	69.30	4.50	0.60	8.20	0.60
OUTCROP	2.30	28.10	65.90	6.00	80.40	5.00	0.60	7.00	1.00
OUTCROP	6.40	27.80	58.50	13.70	72.10	4.70	0.60	8.00	0.90
UNDERGROUND	2.60	31.90	60.90	7.20	80.70	5.10	0.60	5.10	1.30
UNDERGROUND	3.20	29.20	63.90	6.90	81.10	4.90	1.00	4.80	1.30
STRIP	3.00	34.10	62.40	3.50	83.30	5.30	0.70	5.50	1.70
STRIP	4.40	38.00	55.90	6.10	77.60	5.30	1.60	8.00	1.40
UNDERGROUND	3.20	30.20	66.00	3.80	84.20	5.10	0.50	4.90	1.50
UNDERGROUND	2.90	28.00	65.60	6.40	80.90	4.70	1.10	5.70	1.20
STRIP	4.80	31.20	55.10	13.70	72.20	4.70	0.60	7.40	1.40
STRIP	2.60	25.10	66.80	8.10	79.20	4.70	1.80	4.50	1.70
STRIP	3.30	32.40	52.80	14.80	72.10	4.80	0.70	6.30	1.30
STRIP	3.00	39.40	53.10	7.50	76.40	5.40	2.00	7.40	1.30
STRIP	4.10	37.90	51.60	10.50	72.70	4.90	3.00	7.60	1.30
STRIP	2.30	40.50	53.10	6.40	77.40	5.30	2.10	7.40	1.40

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatiles	Rdx Crbn	County	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Hgt Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
HOLE NO TB47R	2.10	41.70	51.70	LEWIS	6.60	76.50	5.30	3.90	W210194	385528	802827	B	13930	09/01/88
										6.60	1.10		8.0	2066
UNDERGROUND	3.10	39.50	51.20	GILMER	9.30	74.00	5.00	3.10	W206560	385540	804759	B	13350	09/01/88
										7.30	1.30		4.0	2102
HOLE NO S-5	3.00	39.10	49.10	LEWIS	11.80	71.30	5.10	5.20	W206588	385612	802950	B	13070	09/01/88
										5.40	1.20		7.0	2012
UNDERGROUND	3.60	35.60	42.90	MASON	21.50	60.10	4.40	4.10	W189283	385630	820247	B	10870	09/01/88
										3.20	0.70		1.0	2192
HOLE CS NO 1	1.80	33.50	54.30	LEWIS	12.20	75.70	4.80	0.50	W206589	385652	803103	B	13380	09/01/88
										5.40	1.40		5.0	2471
STRIP	3.10	41.00	48.90	LEWIS	10.10	73.80	5.40	3.20	W206378	385820	802308	B	13330	09/01/88
										6.20	1.30		6.5	2147
HOLE CS NO 2	2.40	40.30	50.00	LEWIS	9.70	73.70	5.40	4.50	W206590	385845	792200	B	13600	09/01/88
										5.40	1.30		7.5	2003
UNDERGROUND	2.20	32.00	63.30	FAYETTE	4.70	83.50	5.20	0.60	W210330	385905	812128	B	14870	09/01/88
										4.40	1.60		7.5	2804
STRIP	3.50	39.50	52.50	UPSHUR	8.00	76.20	5.20	3.60	W194983	390010	792115	B	13190	09/01/88
										5.90	3.10		4.0	2138
HOLE NO 93	3.40	39.00	51.40	LEWIS	9.60	73.90	9.40	4.00	W206565	390012	802824	B	13320	09/01/88
										2.00	1.10		5.0	2021
STRIP	2.90	42.30	48.10	LEWIS	9.60	74.20	5.00	2.70	W206579	390109	804252	B	13310	09/01/88
										7.20	1.30		6.5	2335
STRIP	3.00	22.70	59.90	TUCKER	17.40	70.00	4.00	6.30	W190926	390115	792100	B	12640	09/01/88
										1.20	1.10		9.0	2039
STRIP	2.40	41.20	51.00	LEWIS	7.80	76.30	5.30	3.20	W194981	390119	802053	B	13930	09/01/88
										6.20	1.20		7.5	2138
STRIP	2.40	42.00	52.30	LEWIS	5.70	78.20	5.50	2.80	W206577	390203	802343	B	13990	09/01/88
										6.60	1.20		7.5	2192

## Coal Field Information Printout for: WV - West Virginia

Location Moisture	Volatile Content	Fxd Crbn	Ash	Carbon	Code Number	Hydrogen	Sulfur	Latitude Oxygen	Longitude	Rank	Ht <sub>m</sub>	Val	Last Chg
STRIP				LEWIS	W205580			390231	804320	B	13300	09/01/88	
2.50	42.50	47.80	9.70	72.80	5.40	3.80		7.10	1.20		6.0	2111	
STRIP	2.00	38.40	55.90	5.70	78.80	5.40	2.20	6.60	1.30		8.5	2111	
STRIP	3.20	40.20	51.20	8.60	75.00	5.20	2.70	7.30	1.20		6.5	2116	
STRIP	3.50	36.20	47.10	16.70	68.30	4.70	4.10	5.10	1.10		8.5	2235	
STRIP	2.10	39.20	54.30	6.50	78.70	5.30	1.80	6.30	1.40		8.5	2219	
STRIP	3.30	41.70	51.20	7.10	75.70	5.20	3.70	7.10	1.20		7.5	2111	
STRIP	2.10	41.80	51.50	6.90	77.10	5.20	3.20	6.50	1.10		7.5	2111	
UNDERGROUND	2.80	30.20	54.10	15.70	71.90	4.50	1.90	4.80	1.20		7.5	2642	
STRIP	4.30	38.20	50.20	11.60	72.50	4.90	2.30	7.60	1.10		8.0	2354	
STRIP	1.90	41.10	52.50	6.40	78.30	5.30	2.30	6.60	1.10		7.5	2192	
UNDERGROUND	2.60	40.20	52.60	7.20	77.60	5.50	3.00	5.20	1.50		8.0	2048	
STRIP	2.80	36.40	57.30	6.30	79.40	5.20	0.90	6.70	1.50		9.0	2804	
STRIP	1.70	42.70	50.50	6.80	77.20	5.50	3.30	6.10	1.10		8.5	2138	
UNDERGROUND	2.10	38.40	51.60	10.00	74.30	5.20	3.30	5.90	1.30		8.5	2102	
STRIP	2.50	38.60	51.00	10.40	75.00	5.20	2.80	5.30	1.30		9.0	2246	
UNDERGROUND	2.20	36.50	56.00	7.50	77.50	5.31	2.20	39.0658	800842	E	13370	09/01/88	

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
STRIP	2.40	35.50	56.60	7.90	78.20	5.20	1.60	5.80	390702	800847	B	14000	09/01/88	9.0 2318
STRIP	3.10	39.60	53.90	6.50	77.10	5.20	2.20	7.70	390705	802142	B	13870	09/01/88	7.5 2210
STRIP	2.30	37.40	54.30	8.30	76.50	5.40	2.00	6.40	390720	801351	B	13690	09/01/88	8.5 2147
UNDERGROUND	1.50	40.40	49.40	10.20	76.30	5.30	5.30	1.60	390730	801308	B	13370	09/01/88	8.0 2111
STRIP	3.00	38.20	52.10	9.70	74.70	5.10	4.90	4.30	390732	800815	B	13690	09/01/88	9.0 2057
UNDERGROUND	2.80	37.50	53.40	9.00	76.00	5.10	2.70	5.90	390735	800928	B	13580	09/01/88	8.5 2156
STRIP	2.70	37.30	53.00	9.70	75.40	5.00	3.30	5.40	390740	800754	B	13660	09/01/88	9.0 2147
STRIP	3.30	36.40	57.10	6.50	79.20	5.20	3.30	4.40	390756	801221	B	14120	09/01/88	9.0 2543
STRIP	2.60	41.90	52.10	6.00	76.90	5.40	3.70	6.70	390803	802140	B	14070	09/01/88	8.0 2021
STRIP	1.20	38.40	53.70	7.90	76.70	5.30	2.20	6.80	390807	801025	B	13830	09/01/88	9.0 2462
STRIP	3.50	39.50	49.40	11.10	74.30	5.10	4.10	4.10	390820	801228	B	13580	09/01/88	
STRIP	2.80	36.60	55.90	7.50	78.30	5.20	1.70	6.00	390821	801006	B	14000	09/01/88	
STRIP	1.60	41.30	51.30	7.40	77.30	5.40	2.70	5.80	390859	801303	B	13990	09/01/88	9.0 2156
UNDERGROUND	2.10	36.20	53.20	10.60	74.80	5.00	1.80	6.40	390911	801104	B	13370	09/01/88	9.0 2246
UNDERGROUND	1.30	36.80	54.30	8.90	75.60	5.30	2.40	6.80	390927	801019	B	13670	09/01/88	9.0 2345
UNDERGROUND	1.60	31.10	48.90	20.00	67.80	4.50	1.50	4.80	390945	795937	B	12230	09/01/88	8.5 2804

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
										Nitrogen	Hardgrove	Free Swell	Hemi Temp	
UNDERGROUND	1.90	31.20	53.80	15.00	BARBOUR	W194954	4.90	3.70	390949	800313	B	12920	09/01/88	2246
STRIP	3.70	33.50	58.60	7.90	BARBOUR	W206567	5.10	1.10	391035	800639	B	13740	09/01/88	2714
STRIP	1.80	40.70	51.40	7.90	HARRISON	W210197	5.30	2.90	391050	802146	B	13800	09/01/88	2102
STRIP	1.70	38.40	50.60	11.00	BARBOUR	W206569	5.00	3.30	391052	801145	B	13310	09/01/88	2201
STRIP	1.00	38.10	54.30	7.60	BARBOUR	W194969	5.40	1.80	391103	800732	B	14260	09/01/88	2219
STRIP	3.10	35.90	55.80	8.30	BARBOUR	W194970	5.00	2.90	391105	800722	B	13880	09/01/88	2318
STRIP	2.30	33.70	53.00	13.30	BARBOUR	W194971	4.90	2.70	391122	800621	B	13120	09/01/88	2237
STRIP	3.60	36.70	56.70	6.60	BARBOUR	W194968	5.20	1.80	391130	800931	B	14060	09/01/88	2408
STRIP	1.40	29.90	51.10	19.00	BARBOUR	W206571	4.60	2.90	391151	800308	B	12250	09/01/88	2273
STRIP	3.10	36.80	50.40	12.80	BARBOUR	W194966	4.80	3.30	391151	801127	B	13030	09/01/88	2111
STRIP	2.70	36.70	52.10	11.20	HARRISON	W206570	4.80	3.60	391255	801232	B	13140	09/01/88	2147
STRIP	2.70	38.10	53.20	8.70	BARBOUR	W194960	5.20	3.70	391353	801015	B	13890	09/01/88	
STRIP	1.50	37.10	55.40	7.50	TAYLOR	W194959	5.20	1.60	391444	800722	B	14180	09/01/88	2156
OUTCROP	1.50	36.40	48.90	14.70	HARRISON	W189280	4.90	2.80	391652	801701	B	12550	09/01/88	2156
STRIP	2.70	37.40	56.40	6.20	TAYLOR	W194958	5.40	0.40	391917	800416	B	14330	09/01/88	2246
UNDERGROUND	2.70	36.10	57.00	6.90	MARION	W206584	5.20	0.90	392954	801202	B	13940	09/01/88	2291

## Coal Field Information Printout for: WV - West Virginia

Location	Moisture	Volatile	Fxd Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
				Ash		Oxygen	Nitrogen						
UNDERGROUND	2.70	39.30	54.00	6.70	78.40	5.30	2.60	W206587	393005	801111	B	14090	09/01/88 2210
UNDERGROUND	2.40	38.20	54.90	6.90	78.90	5.40	1.40	W206585	393045	801123	B	14100	09/01/88 2408
UNDERGROUND	1.80	39.10	53.60	7.30	77.60	5.30	2.70	W206583	393100	801203	B	13860	09/01/88 2147
STRIP	0.90	27.00	62.50	10.50	77.30	4.90	1.50	W189286	393430	793824	B	13780	09/01/88 2687
DIPPEL&DIPPEL STRIP	1.20	28.30	35.60	36.10	51.10	3.80	2.10	W194352	393730	800300	B	9220	09/01/88 2804
STRIP	1.70	32.30	56.10	11.60	73.00	5.10	1.20	W189287	393730	800329	B	13050	09/01/88 2444
STRIP	7.10	33.80	54.50	11.70	72.40	4.90	1.10	W210195	393804	795340	B	12710	09/01/88 2516
	1.60	21.00	43.30	35.70	55.00	3.50	1.40	W193858	393541	795038	B	9650	09/01/88 2804
DIPPEL&DIPPEL STRIP	1.20	31.10	42.10	26.80	60.50	4.40	0.80	W194359	394143	800100	B	10810	09/01/88 2804
STRIP	2.10	35.40	46.70	17.90	66.80	4.80	3.90	W210196	394155	800108	B	12160	09/01/88 2372
HOLE 5	1.80	37.40	46.70	15.90	69.80	4.90	1.60	W210125	395451	802640	B	12640	09/01/88 2750
STRIP MINE	7.00	28.70	41.50	29.80	56.10	4.10	2.00	W191132	401410	803222	B	10010	09/01/88 2678
STRIP	6.10	37.80	55.20	7.00	76.00	5.00	1.60	W190683	401906	803300	B	13530	09/01/88 2354
STRIP	4.80	38.10	53.30	8.60	75.00	5.10	2.40	W190684	401950	803138	B	13270	09/01/88 2138

**Coal Field Information Printout for  
WY - Wyoming**

## Coal Field Information Printout for: WY - Wyoming

Location Moisture	Volatiles	Fxd Crbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
										Hardgrove	Free Swell	Hemi Temp
14.70	36.10	53.10	10.80	66.80	4.70	0.70	411245 D187071	1073045 SB		11460	0.0	09/01/88 2444
27.40	43.40	33.70	22.90	49.10	2.80	1.10	411432 D187069	1072938 SB		7410	0.0	09/01/88 2453
17.50	53.50	50.50	16.00	63.10	4.10	0.60	411548 D187059	1073342 SB		10820	0.0	09/01/88 2354
15.00	34.90	47.90	17.20	61.70	4.30	0.60	411610 D180025	1073215 SB		10650	0.0	09/01/88 2804
17.70	34.30	44.00	21.70	58.90	4.30	0.60	411829 D187079	1073231 SB		10210	0.0	09/01/88 2615
13.80	36.40	52.30	11.30	67.20	4.60	0.50	412014 D180023	1073420 SB		11640	0.0	09/01/88 2462
15.50	34.00	47.50	18.50	61.00	4.00	0.70	412125 D180021	1073039 SB		10500	0.0	09/01/88 2759
1.20	25.10	57.30	17.60	71.90	4.40	0.80	412230 D177050	1075230 B		12780	9.0	09/01/88 2732
27.00	45.10	45.10	9.80	58.80	3.30	0.80	412230 D165063	1083730 SB		9030	0.0	09/01/88 0
34.70	43.40	37.20	19.40	51.70	3.10	0.60	412230 D169591	1084500 SB		7960	0.0	09/01/88 0
14.20	38.80	51.80	9.40	68.20	4.80	0.50	412325 D187075	1073118 SB		11780	0.0	09/01/88 2516
21.60	36.50	47.90	15.60	62.20	3.80	0.60	413024 D180038	1073908 SB		10250	0.0	09/01/88 2264
NO 7 SEAM STRIP MINE 8.50	40.30	52.70	7.00	72.70	5.00	0.90	413040 D177427	1091330 B		12680	0.5	09/01/88 2912
22.40	39.00	52.10	8.90	56.80	4.10	0.50	413046 D180037	1073856 SB		11070	0.0	09/01/88 2201
10.40	42.50	51.50	6.00	73.80	5.20	1.00	413111 D170264	1091326 SB		13080	0.0	09/01/88 2246
20.50	37.70	48.10	14.20	62.20	4.10	1.80	413112 D180036	1073758 SB		10310	0.0	09/01/88 2255

## Coal Field Information Printout for: WY - Wyoming

Location Moisture	Volatile Ash	County	Carbon	Hydrog-n	Cor's Number	Latitude	Longitude	Rank	Htg Val	Last Chg
Fxd Crbn	Ash		Sulfur	Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
23.40	38.10	48.10	13.80	62.70	3.90	0.80	17.90	0.90	10460	09/01/88 0.0 2309
25.20	37.30	49.30	13.40	62.70	4.10	0.70	18.20	0.90	10440	09/01/88 0.0 2228
9.50	41.50	54.10	4.40	74.30	5.00	0.90	14.80	0.60	12970	09/01/88 0.5 2192
14.40	36.70	54.30	9.00	67.90	4.20	0.80	16.90	1.20	11360	09/01/88 0.0 2912
SWANSON DEEP MINE 10.20	39.30	49.20	11.50	67.70	4.60	1.20	14.10	0.90	11850	09/01/88 0.5 2912
17.50	32.00	35.00	33.00	47.70	3.60	1.70	13.00	1.00	8060	09/01/88 0.0 2363
19.50	32.90	32.70	34.40	42.70	3.30	4.60	14.10	0.90	7220	09/01/88 0.0 2201
19.60	36.10	37.20	26.70	47.50	3.50	5.30	16.00	1.00	8090	09/01/88 0.0 2158
21.20	32.40	30.60	37.00	41.40	3.00	3.70	14.00	0.90	6960	09/01/88 0.0 2327
SWANSON DEEP MINE 11.70	41.10	54.60	4.30	75.00	5.00	1.10	13.40	1.20	13010	09/01/88 0.5 2154
38.80	44.90	46.40	8.70	60.50	3.10	0.30	26.30	1.10	9130	09/01/88 0.0 2201
24.50	38.70	51.80	9.50	66.80	3.80	1.10	17.90	0.90	11150	09/01/88 0.0 2147
41.60	45.70	45.90	8.40	60.70	3.20	0.30	26.20	1.20	9040	09/01/88 0.0 2300
20.50	31.20	30.40	38.40	44.10	3.00	0.50	13.40	0.60	7190	09/01/88 0.0 2264
39.50	43.30	48.40	8.30	61.50	3.20	0.20	25.80	1.00	9400	09/01/88 0.0 2201
43.40	42.40	43.30	14.30	56.80	3.10	0.50	24.40	0.90	8550	09/01/88 0.0 2102

## Coal Field Information Printout for: WY - Wyoming

Location Moisture	Volatile Ash	Crbn	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude Nitrogen	Rank	Htg Val	Last Chg
30.00	34.60	47.40	18.00	60.70	4.20	1.30	D178467	413840 14.90	1073238 0.90	SB	10230. 0.0	09/01/88 2246
23.20	38.80	50.70	10.50	65.70	4.30	0.90	D178464	413903 17.80	1073218 0.80	SB	10980 0.0	09/01/88 2046
41.60	45.50	47.30	7.20	61.60	3.00	0.20	D178115	413910 27.10	1073920 0.90	SB	9230 0.0	09/01/88 2084
42.60	48.20	41.30	10.50	59.30	2.60	0.20	D178112	413935 26.50	1073830 0.90	SB	8820 0.0	09/01/88 2183
36.30	44.30	45.20	10.50	60.20	3.20	0.50	D178110	413935 24.70	1073900 0.90	SB	9140 0.0	09/01/88 2165
25.80	45.80	46.00	8.20	68.80	4.80	0.90	D178452	413947 16.50	1073118 0.80	SB	11790 0.0	09/01/88 2084
41.80	43.30	40.20	16.50	53.10	2.80	0.90	D178473	413957 25.50	1073155 1.20	SB	7970 0.0	09/01/88 2417
26.20	37.00	54.60	8.40	68.20	4.20	1.50	D178456	414012 16.50	1073132 1.20	SB	11530 0.0	09/01/88 2102
39.70	45.10	44.30	10.60	58.40	3.00	0.70	D178472	414026 26.10	1073133 1.20	SB	8660 0.0	09/01/88 2318
26.10	32.20	44.30	23.50	58.20	3.80	0.80	D178449	414027 12.90	1073150 0.80	SB	9770 0.0	09/01/88 2246
16.70	42.90	54.50	2.60	74.10	4.70	1.10	D177433	414150 15.90	1091800 1.60	B	12630 0.5	09/01/88 2093
17.00	39.80	52.70	7.50	67.60	4.50	0.70	D187054	414405 17.90	1072111 1.80	SB	11490 0.0	09/01/88 2129
23.80	43.40	49.60	7.00	66.60	4.50	0.80	D171661	414417 19.30	1103729 1.80	SB	11230 0.0	09/01/88 2102
20.50	41.50	49.80	8.70	67.70	4.70	1.10	D171839	414432 15.90	1103752 1.90	SB	11840 0.0	09/01/88 1976
12.10	41.20	47.70	11.10	66.90	5.00	1.00	D169599	414500 14.40	1063000 1.60	SB	11750 0.0	09/01/88 0
21.90	41.90	48.40	9.70	64.00	4.10	0.80	D169390	414500 19.90	1084500 1.50	SB	10670 0.0	09/01/88 0

## Coal Field Information Printout for: WY - Wyoming

Location	Moisture	Volatile	Frd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp	
HOLE NO RM-1-CS	15.70	42.70	47.90	9.40	CARBON	63.20	4.50	0.60	D176629	414630	1060705	SB	10630	09/01/88
										20.90	1.40		0.0	2912
					SWEETWATER				D171833	414658	1084532	SB	10310	09/01/88
						62.50	4.00	0.60		18.00	1.40		0.0	2515
					LINCOLN				D171857	414703	1103705	SB	12480	09/01/88
						71.90	5.10	0.40		16.60	1.80		0.0	2093
					LINCOLN				D170263	414710	1103650	SB	12320	09/01/88
						70.80	5.10	0.40		17.00	1.50		0.0	2192
					LINCOLN				D171855	414712	1103706	SB	12340	09/01/88
						70.90	5.00	0.50		17.30	1.80		0.0	2129
					LINCOLN				D171851	414714	1103630	SB	12220	09/01/88
						70.90	4.90	0.60		15.50	1.70		0.0	2084
					LINCOLN				D170261	414720	1103640	SB	12640	09/01/88
						72.10	5.20	1.60		15.20	1.10		0.0	2210
					LINCOLN				D171856	414726	1103650	SB	12210	09/01/88
						70.80	5.00	0.40		17.50	1.80		0.0	2336
					CARBON				D180028	415051	1073052	SB	7620	09/01/88
						44.90	3.40	0.60		13.20	1.10		0.0	2804
					CARBON				D176628	415155	1061650	SB	7410	09/01/88
						49.20	3.20	0.30		26.40	1.40		0.0	2840
					CARBON				D171836	415212	1064027	SB	11350	09/01/88
						66.30	4.60	0.50		14.70	1.60		0.0	2147
					CARBON				D169598	415230	1063000	SB	11930	09/01/88
						66.70	5.10	0.80		14.40	1.50		0.0	0
					CARBON				D169607	415230	1063730	SB	12380	09/01/88
						71.90	4.80	0.70		14.90	1.50		0.0	0
					CARBON				D169597	415230	1054500	SB	11540	09/01/88
						69.40	4.30	0.30		20.30	1.00		0.0	0
					CARBON				D183108	415310	1064925	SB	11440	09/01/88
						67.10	4.30	0.50		16.70	1.10		0.0	2264
					CARBON				D171835	415312	1064002	SB	12400	09/01/88
						71.60	5.00	0.70		13.90	1.80		0.0	2129

## Coal Field Information Printout for: WY - Wyoming

Location Moisture	Volatile Moisture	Exd Crbn	Crbn	County Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude Oxygen	Longitude	Rank	Htg Val	Last Chg
			CARBON		D110255	4.50	0.50	415338	1064806	B	11540	09/01/88	
13.80	38.60	51.40	10.00	67.20	4.50	0.50	16.90	0.90			0.0	2120	
16.00	40.80	54.60	4.60	71.40	4.80	0.50	17.70	1.00			0.0	2426	
12.30	38.20	53.80	8.00	71.20	4.80	0.60	14.10	1.30			0.0	2111	
RIMROCK STRIP MINE 14.60	37.80	50.00	12.20	64.30	4.20	1.30	16.50	1.50			0.0	2183	
11.30	45.20	48.70	6.10	73.30	5.50	0.50	13.10	1.50			0.0	2120	
12.40	44.70	45.30	10.00	68.20	4.90	1.40	14.00	1.50			0.0	2129	
12.50	36.50	54.00	9.50	68.70	4.60	0.70	15.10	1.40			0.0	2246	
14.10	34.60	53.90	11.50	66.50	4.60	0.50	15.70	1.20			0.0	2354	
10.30	43.90	45.20	10.90	67.90	5.10	0.80	13.70	1.60			0.0	2192	
13.90	40.20	53.40	6.40	70.60	4.60	0.60	16.30	1.50			0.0	2156	
11.20	46.10	45.70	8.20	69.10	5.10	1.10	14.70	1.80			0.0	2282	
10.20	40.30	52.20	7.50	69.50	4.80	0.70	16.20	1.30			0.0	2120	
10.60	41.80	53.30	4.90	73.30	5.30	0.80	14.00	1.70			0.0	2084	
7.10	31.00	37.80	31.20	51.80	3.80	0.40	12.00	0.80			0.0	2624	
29.90	35.80	49.60	14.60	64.30	4.50	0.60	14.40	1.60			0.0	2318	
HOLE NO RM-1-CS 29.20	42.20	44.00	CARBON	56.20	3.20	0.40	25.30	1.10			0.0	2912	

## Coal Field Information Printout for: WY - Wyoming

Location	Moisture	Volatile	Fxd Czbn	Ash	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen	Hardgrove	Free Swell	Hemi Temp	
JOHNSTON MINE	14.80	45.30	45.10	9.60	65.50	4.80	0.80	D161312	425230	1054500	SB	11170	09/01/88 0
	20.70	44.50	35.70	19.80	57.90	4.40	0.60	D171837	430138	1054940	SB	9900	09/01/88 0.0 2147
	19.50	47.40	41.70	10.90	64.40	4.90	0.90	D171839	430244	1055012	SB	11020	09/01/88 0.0 2039
	22.70	45.10	42.20	12.70	62.40	4.80	0.60	D171038	430301	1055018	SB	10720	09/01/88 0.0 2138
	17.10	44.30	50.60	5.10	69.60	4.90	0.50	D166180	433000	1051500	SB	12000	09/01/88 0.0 0
	22.50	44.90	49.80	5.30	69.70	4.90	0.40	D165593	433952	1051616	SB	11950	09/01/88 0.0 0
	27.80	45.40	49.90	4.70	70.10	5.00	0.40	D165600	434022	1051452	SB	12150	09/01/88 0.0 0
	17.30	30.70	30.70	38.60	37.80	2.80	7.90	D179875	435005	1060335	SB	6570	09/01/88 0.0 2039
	19.40	31.80	28.80	39.40	40.50	3.00	4.80	D179876	435055	1060405	SB	7030	09/01/88 0.0 2057
BELLE AYR MINE	14.50	40.50	52.00	7.50	68.40	4.50	0.50	D177022	440035	1052230	SB	11500	09/01/88 0.0 2066
	29.30	45.40	45.70	8.90	66.40	4.90	1.30	D178089	440340	1053350	SB	11430	09/01/88 0.0 2336
	26.20	45.50	47.30	7.20	68.70	5.30	0.80	D160988	440548	1052230	SB	11950	09/01/88 0.0 0
	29.20	44.80	50.30	4.90	70.60	5.00	0.60	D163521	440553	1052234	SB	12190	09/01/88 0.0 0
	22.60	42.50	51.20	6.30	69.90	5.20	0.50	D171826	440555	1052233	SB	12030	09/01/88 0.0 2183
	27.10	43.20	49.30	7.50	67.90	4.90	0.40	D160987	441628	1052328	SB	11700	09/01/88 0.0 0
	27.20	46.50	42.90	CAMPBELL	10.60	65.40	4.80	D171830	441647	1052319	SB	11370	09/01/88 0.0 2192

## Coal Field Information Printout for: WY - Wyoming

Location Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
								Oxygen	Nitrogen	Hardgrove	Free Swell	Hemi Temp		
29.90	45.80	46.50	7.70	68.90	4.50	0.40	17.40	441649	1052328	SB	11670	09/01/88	2084	
10.40	45.70	44.30	10.00	65.60	5.00	1.00	17.50	D160983	441700	1052334	SB	11470	09/01/88	0
21.90	43.00	51.60	5.40	70.30	5.10	0.80	16.60	D171831	441725	1052332	SB	12290	09/01/88	2138
22.70	34.40	29.50	36.10	44.00	3.60	0.50	15.20	D179941	442112	1064135	SB	7490	09/01/88	2282
30.90	44.40	48.40	7.20	67.10	5.00	1.00	18.70	D178107	442540	1055100	SB	11510	09/01/88	2102
37.10	48.10	42.80	9.10	62.80	4.40	1.10	21.50	D178396	443250	1054955	SB	10370	09/01/88	2462
29.50	45.00	47.50	7.50	64.40	4.60	2.80	19.30	D178106	443340	1055530	SB	10920	09/01/88	2246
34.60	49.00	42.70	8.30	58.90	4.10	0.80	25.90	D169770	443908	1063138	SB	9460	09/01/88	0
36.80	48.60	35.30	16.10	52.20	3.30	0.90	25.90	D169064	443909	1064412	SB	7900	09/01/88	0
38.70	50.10	39.30	10.60	56.00	3.60	0.70	27.10	D169772	443956	1063408	SB	8650	09/01/88	0
36.50	48.20	43.60	8.20	59.40	3.70	0.60	26.20	D169071	444250	1064216	SB	9390	09/01/88	0
37.10	50.40	41.80	7.80	58.40	3.80	1.30	26.30	D169073	444323	1064322	SB	9240	09/01/88	0
40.70	47.20	36.40	16.40	51.20	3.30	1.00	26.20	D169063	444326	1064112	SB	7850	09/01/88	0
41.50	43.20	48.40	8.40	66.30	4.40	0.70	19.50	D177741	444330	1053625	SB	11250	09/01/88	2255
41.80	49.10	39.00	11.90	55.20	3.40	0.90	26.90	D169777	444330	1063421	SB	8440	09/01/88	0
40.30	49.20	42.40	8.40	59.00	3.70	1.30	25.80	D169076	444451	1064350	SB	9400	09/01/88	0

## Coal Field Information Printout for: WY - Wyoming

Location	Moisture	Volatile	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg	
									Oxygen	Nitrogen	Hardgrove	Fuse Swell	Hemi Temp		
22.40	44.90	44.30	10.80	59.90	D164618	4.4610	1052624	SB	44.610	1052624	13250	0.0	09/01/88	0	
HOLE NO 76-103	36.00	30.40	33.60	47.80	D169993	3.80	0.60	23.70	44.719	1053321	SB	8390	0.0	09/01/88	2264
HOLE NO RM-1-CS	43.20	45.90	10.90	63.60	D176630	4.20	0.70	11.70	44.740	1053150	SB	10740	0.0	09/01/88	2093
HOLE NO RM-2	40.80	40.40	18.80	58.80	D177704	4.30	0.80	19.60	44.743	1053238	SB	9920	0.0	09/01/88	2201
HOLE NO RM-5	41.10	42.70	16.20	61.50	D177715	4.30	0.90	16.20	44.756	1053723	SB	10450	0.0	09/01/88	2201
HOLE NO RM-4-CS	43.40	47.80	8.80	66.50	D176799	4.70	0.70	18.30	44.802	1053530	SB	11390	0.0	09/01/88	2237
HOLE NO RM-1-CS	43.40	43.90	12.70	62.70	D169059	4.50	2.10	23.60	44.816	1063426	SB	10730	0.0	09/01/88	0
HOLE NO 76-105	42.80	47.30	9.90	64.90	D167005	4.50	0.60	19.00	44.819	1053336	SB	10930	0.0	09/01/88	2345
HOLE NO RM-6	43.40	43.90	13.20	60.10	D164626	4.50	0.70	18.40	44.841	1053530	SB	10470	0.0	09/01/88	2156
HOLE NO 76-108	42.30	34.00	23.70	56.00	D169987	4.70	1.10	13.50	44.856	1053454	SB	9950	0.0	09/01/88	2390
HOLE NO RM-6	41.80	45.20	13.00	62.80	D177730	4.40	0.70	18.10	44.930	1053835	SB	10670	0.0	09/01/88	2219
25.80	45.10	51.50	3.40	63.50	D165045	4.40	4.60	21.90	44.5020	1064626	SB	10820	0.0	09/01/88	0
24.70	45.20	47.00	7.80	61.50	D165043	4.60	2.00	22.50	44.5020	1064635	SB	10310	0.0	09/01/88	0
27.60	43.50	51.70	4.80	65.30	D165046	4.50	3.00	20.10	44.5034	1064504	SB	11150	0.0	09/01/88	0
32.90	50.10	42.90	7.00	57.60	D165044	4.10	1.80	27.10	44.5230	1065208	SB	11950	0.0	09/01/88	0

## Coal Field Information Printout for: WY - Wyoming

Location	Moisture	Volatiles	Fxd Crbn	Ash	County	Carbon	Hydrogen	Sulfur	-Code Number	Latitude	Longitude	Rank	Htg Val	Last Chg
									Nitrogen			Hardgrove	Free Swell	Hemi Temp
BIG HORN MINE, TIPPLE SAMPLE	18.70	40.80	54.20	5.00	SHERIDAN	72.00	4.90	0.60	D161320	445230	1065230	SB	13280	09/01/88 0
	18.90	45.10	44.30	10.60	SHERIDAN	58.00	3.80	2.60	D164633	445356	1064452	SB	9360	09/01/88 0
	21.10	42.00	50.60	7.40	SHERIDAN	69.60	4.90	0.80	D171840	445400	1065835	SB	12120	09/01/88 2093
	19.10	35.00	37.90	27.10	SHERIDAN	52.00	4.10	2.30	D171845	445402	1070559	SB	9120	09/01/88 2192
WELCH STRIP MINE	17.70	47.40	46.40	6.20	SHERIDAN	68.60	5.40	1.80	D164650	445408	1070550	SB	12130	09/01/88 0
	23.80	44.10	48.70	7.20	SHERIDAN	62.00	3.10	0.50	D164628	445903	1064914	SB	9380	09/01/88 0

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